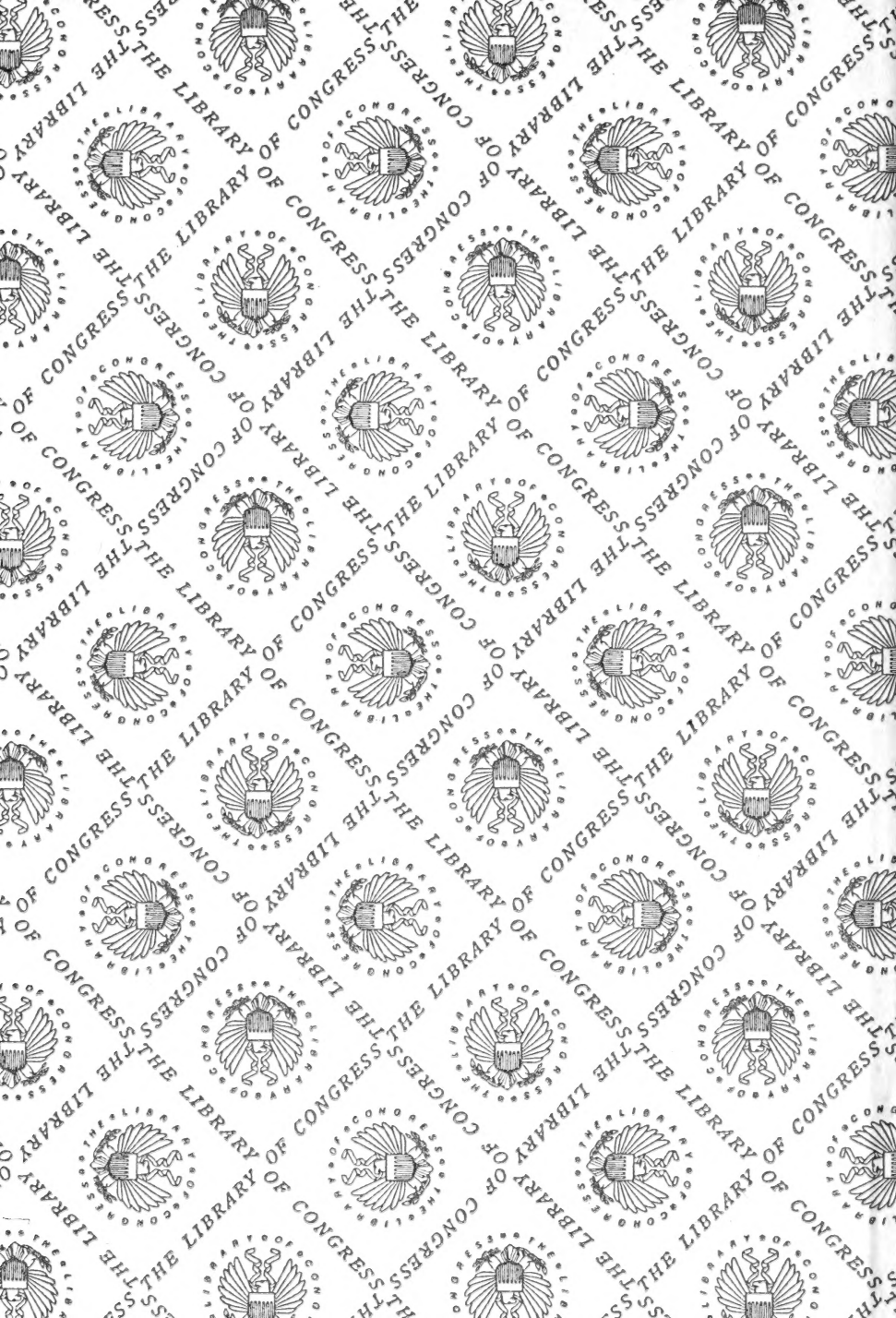
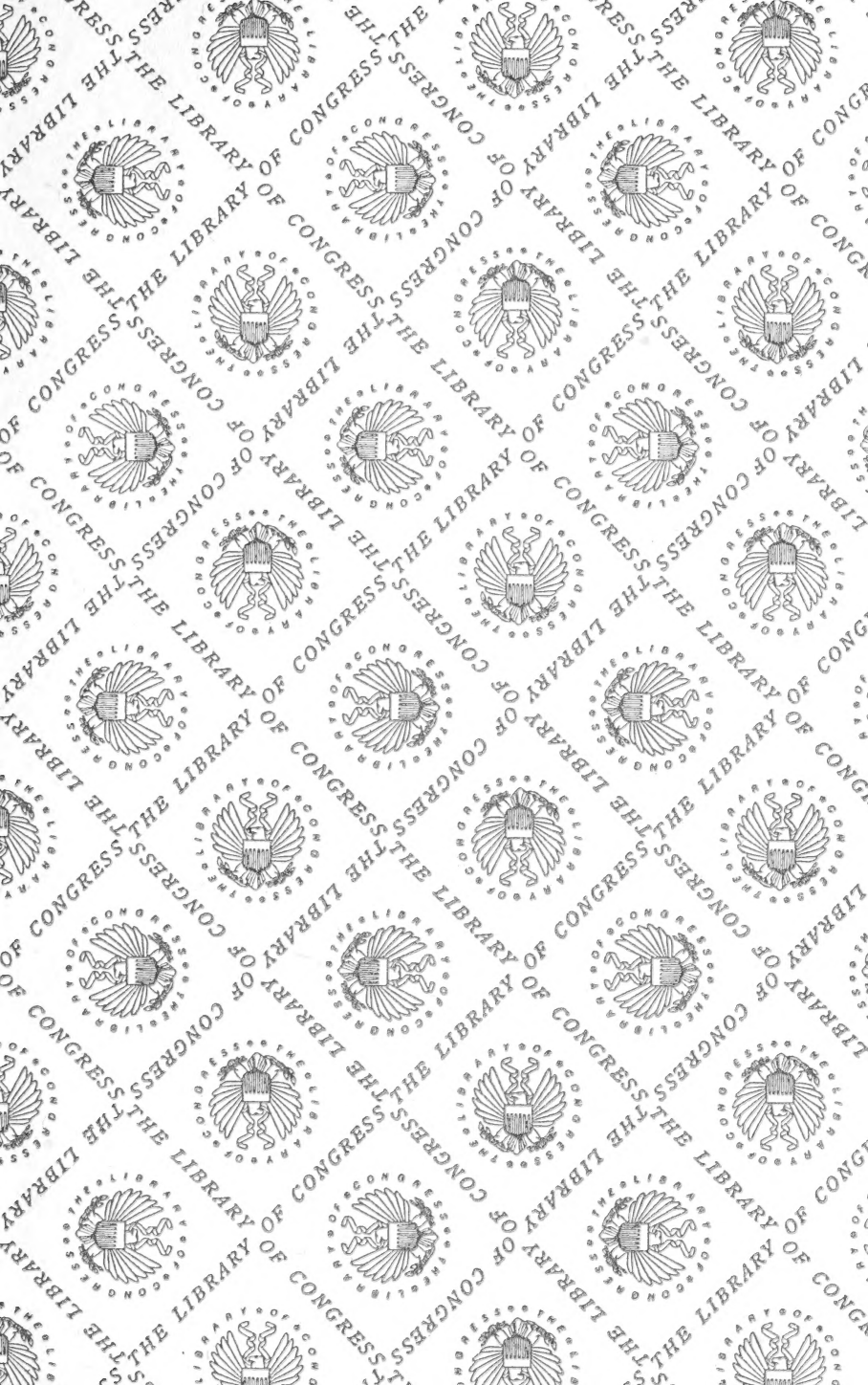


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LANDSCAPE GARDENING STUDIES

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ENTRANCE TO CENTRAL PARK, FIFTY-NINTH STREET AND SEVENTH AVENUE

(From the Painting by CORWIN K. LINSON.)

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• • •

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PREFACE

THE work illustrated and described in this unpretending book represents the author's own undertakings, with one single exception, the pond in Central Park. These concrete examples are selected to show by picture and pen how some problems of landscape gardening were solved by him. They represent certain leading types of work and in a simple way some of the basic principles of the art.

It will be noticed that no reference has been made to the actual design of architectural structures. The difficulty with the landscape architect has often been, that he will insist on designing buildings, something which is really outside of his domain. His province is to deal with Nature and render her more beautiful, more enticing, more lovely in every respect; but always herself, always Nature. It needs a lifetime of study to catch the spirit of her beauty and transfix and utilize it by intelligent manipulation for man's use and enjoyment.

There are broad and simple principles of the art, which should be reflected in a more or less modified way in all good landscape-gardening work. Thus, in order to secure a good composition developed from the surroundings to meet man's physical needs and at the same time secure a

PREFACE

due satisfaction of his higher æsthetic and spiritual nature, the designer should keep large motives in view: breadth, simplicity, a skillful adjustment of the relations between the different parts of the place so that there will be a proper balance throughout the scheme. The place should not be all garden or all pleasure grounds or merely well-groomed and planted farm fields. There are instincts and sentiments which naturally well up in the mind when the scheme of development is undertaken that should be allowed to lead the designer into pleasant harmonious relations with the landscape, not forcing or contorting existing conditions, but allowing Nature to guide in all things with her supremely artistic hand.

A wind-swept knoll with distant views should not be obstructed by many trees. On the other hand, when a nook at the back or one side of the house suggests a garden or a retired valley, trees and shrubs should further emphasize, perfect, and complete the sense of seclusion.

This faculty of design in landscape gardening is, of course, the highest and most difficult attainment of the art. The promptings of its suggestion can be trusted, however, only by those who have sought with long and diligent study its manifold secrets. The habits and strange vagaries of individuality characterizing different trees, shrubs, and flowering plants must be well understood. The treatment of the special soils in which these plants are to grow needs attention that many fail to give. The change of the surface of the ground,

PREFACE

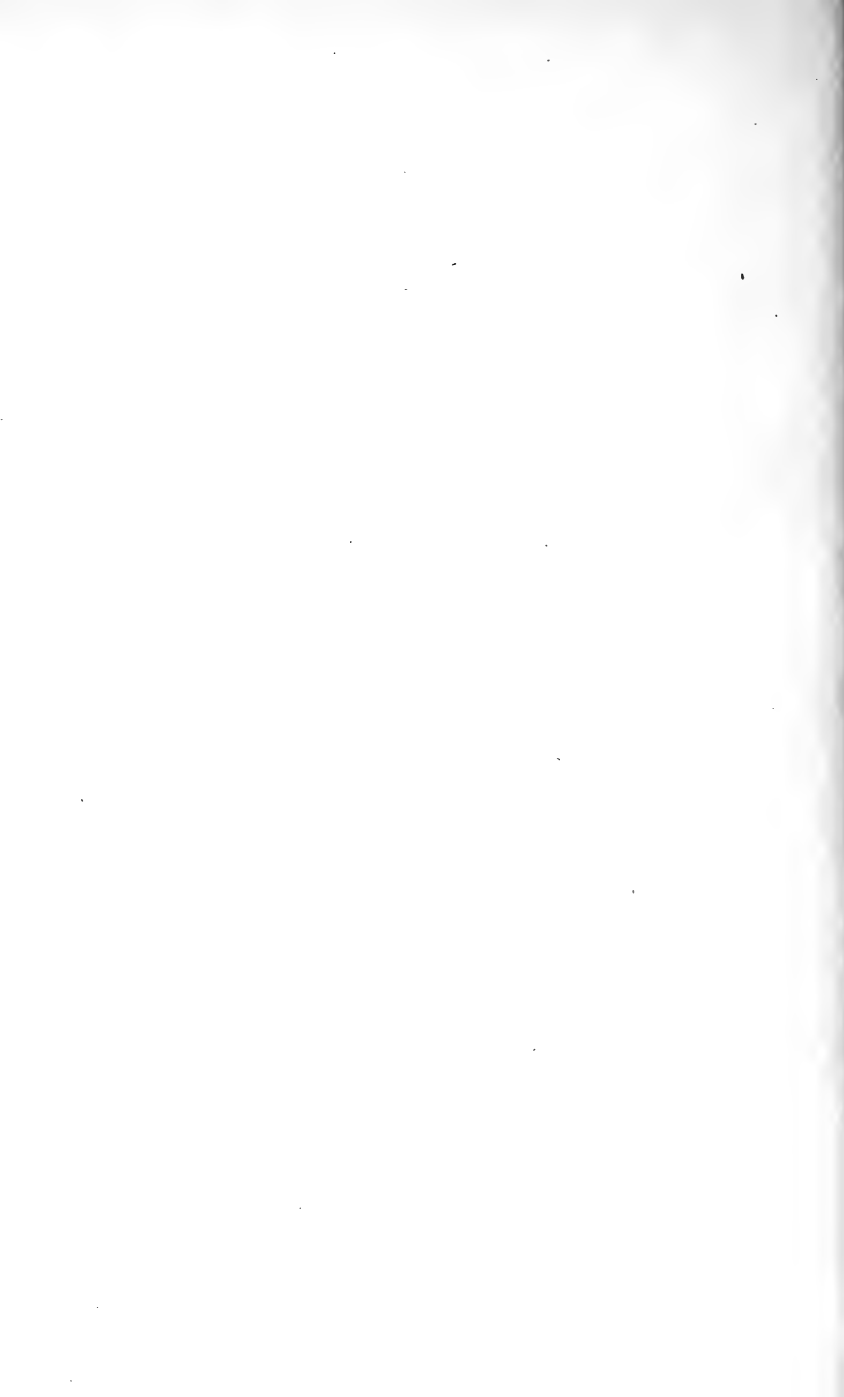
usually termed grading, also represents an important field for study and involves much artistic training and natural ability. Finally, roads and paths are required to enjoy the finished effect, provided they are so arranged as not to mar it.

When sufficient skill and knowledge on these points have been attained there should be associated with them for entire success a breadth of vision and a matured judgment which can be arrived at only by a sympathetic study of the works of masters in landscape architecture. The study of such great examples as Central Park, New York, and Prospect Park, Brooklyn, and in Europe such places as the great park laid out at Muskau, in Southern Prussia, by Prince Puckler; some of the parks in the neighborhood of Berlin; certain of the great English country places, notably Haddon Hall, will do much to give soundness of vision and the needed critical faculty. It may be said also that the study of all landscape-gardening designs affords a source of more or less valuable education.

It is with this end in view that the following chapters undertake to present by means of text and illustrations the efforts of one student of the art.

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LANDSCAPE GARDENING STUDIES

I

LAWNS

TO grade a lawn properly, requires the eye of an artist and the skilled hand of a true artisan. One has to feel and study not only the contour of the land itself but also the surrounding conditions. A level lawn in the midst of a rolling territory will be forced and ill fitted. The contour of a lawn should form an integral part of the general character of any special region.

A level surface, even if it could be obtained, would seldom have value, for no territory is absolutely level. Therefore, whether long flowing lines or shorter ones be employed, they should be so graduated as to blend and lose themselves one in the other.

If drainage is necessary, the lawn should be underdrained with tile laid about two feet below the surface. Clay loams and heavy clay soils are nearly always improved by such treatment. In England so fully is the value of drainage appreciated that landlords will lend money to tenants for this purpose, believing that the returns will secure the payment of the debt.

The ideal way of fertilizing a lawn is to secure a chemical analysis of a number of samples taken

LANDSCAPE GARDENING STUDIES

from different parts of the lawn to determine its alkalinity, its clay and humus content, and possibly the lack of some mineral plant-food element. If the clay content is low a coating of two or three inches of clay loam spread over the ground and incorporated with the natural soil will add greatly to the power of the soil to retain moisture and fertility, together with the mineral salts it may itself contain. But if the lawn is deficient in organic matter there will be no hope of satisfactory results unless this condition is corrected by increasing the humus content. Under favorable circumstances the best method of securing this humus is to bring it from some thoroughly drained swamp which has been long cultivated. Such humus soil must be well rotted, thoroughly disintegrated, sweet, and well supplied with nitrogen and nitrifying soil germs so essential to active fertility. One or two inches of this material should be harrowed in the same as manure. It might be interesting to know the chemical formulæ of a highly fertile soil.

ANALYSIS

ON DRY BASIS

MECHANICAL—

Sand.....	54.5	per cent
Clay.....	25.	“ “
Lime.....	2.5	“ “
Humus.....	18.	“ “

100.

TEXTURE—60 per cent passes 50-mesh sieve to the inch.



LAWN IN CENTRAL PARK, NEW YORK

LAWNS

CHEMICAL—

Organic humus material	18.	
(Containing ammonia .90).		
Ash	82.	
Containing Lime	2.50	
Phosphoric acid35	
Potash40	
Silica and residue ..	78.75	
	<hr/>	<hr/>
	82.00	100

ALKALINE—

This is an ideal soil, well balanced and of long enduring fertility.

If the soil is acid, which condition can be discovered by the use of litmus paper to be obtained from any druggist, lime should be used at the rate of one thousand pounds to the acre. Water slacked (hydrated oxide) is the best form in which to use it, broadcasted and harrowed or raked in.

Stable manure can also be used with excellent results to furnish the humus or organic matter for the lawn; but it must be remembered that it should be thoroughly rotted by proper composting in a pit or other situation, where leaching is prevented and the drainage liquor can be returned to the heap. In this way a large part of the noxious weed seeds are destroyed and a prolific cause of bad lawns eliminated. An acre of lawn should have at least a hundred loads of well-rotted manure, preferably cow manure, spread on its surface and spaded or plowed under.

Before seeding, the soil must be made thoroughly fine by plowing or spading and repeated harrowing

and raking. If the soil is sandy it might be well to roll it before a final, very light raking, so that when the seed is put in it will not be planted too deep. Whether the seed be sown with a machine, in order to spread it evenly, or by hand, it should be sown in both directions. After seeding, the lawn should be rolled and kept watered if the soil requires it.

The foundation of every lawn should be blue-grass, either Kentucky or Canadian. It is long-lived and very hardy, making a thick compact sod that endures drought well. A lawn made of this grass will not come to perfection until the third year. Other grasses, quick-growing and suited to fill in while the blue-grass is coming to maturity, may be mixed in. Such are Pace's rye grass and Rhode Island bent; the latter, by the way, does specially well in sandy soil. In shady places the best grass is wood meadow (*Poa sylvestris*). Very soon after the grass comes up, almost as soon as the mowing-machine will nip it, cutting should be started. Only in this way can the lawn be made to grow compactly and luxuriantly. The knives of the mowing-machine should not be set too low in doing this cutting, especially in hot periods and dry weather.

II

THE REHABILITATION AND COMPLETION OF CENTRAL PARK, NEW YORK

FIFTY-THREE years ago the construction of Central Park was well under way. General Viele had prepared a plan and Mr. Frederick Law Olmsted was Superintendent of Parks. Something had been done but not a great deal, so that when dissatisfaction with the way things were going developed, it was not difficult to call a halt and advertise for the best plan and to offer an adequate reward.

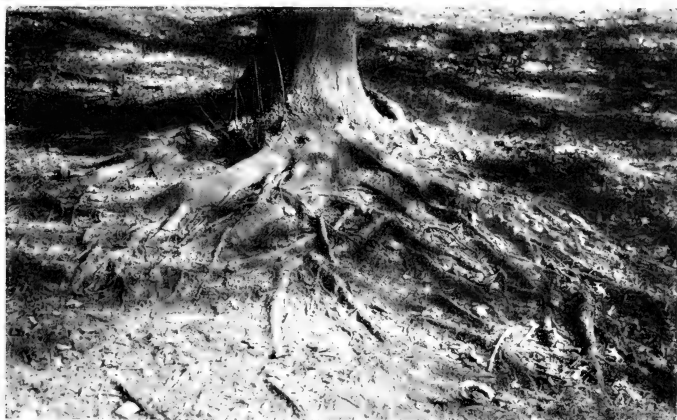
The Greensward plan of Calvert Vaux and Frederick Law Olmsted took the prize, and thereafter both of these artists retained during their lives a more or less dominating influence for good over the carrying out of the design of Central Park. It is largely due to these conditions that we have Central Park as it is to-day; though perhaps the result is still more due to the fact that there were intelligent citizens in New York, Mr. Andrew H. Green among the number, who were willing to fight long and hard for the retention of the original design.

It might be well to note that the design of Central Park means the working out of several ideas, which

were felt to be necessary to the proper park conception of the situation and the peculiar character of New York City. The park consisted of a territory belonging to the city, bounded by 59th Street, 110th Street, Fifth and Eighth Aves. Within this boundary were the unformed elements of a picture, with suggestions of open-air joy for every citizen from childhood to old age. Here was an open meadow where the breezes could play on the rolling surface of the cool greensward, and there a valley, and woodland and lake, with quiet country effects, offering rest and charm for all classes, a place where on a clear, sparkling day every human being could take in with delight the open air undefiled.

The problem which the first designers kept before them was to take advantage of the natural features which existed in this territory and so bind them together with planting, grading, roads, and paths as to make not only a picture of the highest artistic value, but to afford pleasure, rest, and comfort to all who come within its confines, to give freedom and enjoyment to all without interference with the rights of any. Round all this charm of natural scenery it was intended to place a frame of foliage that should not only form a fitting border for the picture, but also conceal as far as possible the sights and sounds of the city.

Yet Central Park is not completed. Before he died Mr. Vaux had planned almost every detail for the final accomplishment of the work. To-day, however, there are large sections of the



DENUATION OF ROOTS OF TREES IN CENTRAL PARK



COMPLETION OF CENTRAL PARK

park which still remain unfinished after some fifty-seven years of effort on the part of citizens, superintendents, landscape architects, and commissioners: notably the territories from 79th Street to 86th Street, east side; from 96th Street to 100th Street, east side; all along the west side from 110th Street to 100th Street and from 81st Street to 77th Street. Indeed it may be said that the border plantations and grading need in a great many places throughout the park, not only restoration, but actual completion in order to carry out properly the ideas of the designers.

Central Park well deserves all the reputation it has. But these lovely bits of landscape, both open meadows and sylvan dells, have not been brought together with the artistic skill which the original designer intended. So beautiful, however, has the park appeared in the eyes of the general public and the disbursers of the public funds that from the early days of the park down to about 1890 or 1895 little thought was given to the completion of the entire design of the park. It is doubtful whether even to-day any considerable number of those who visit the park realize how far it still is from completion.

So long was this lack of completion delayed that finally, after scores of years had passed, a new condition appeared, increasing twofold the park's imperfection. This was that the trees and shrubs finally reached the limit of their span of life, a necessarily short one in the poor soil and unnatural conditions of a large city. The lovers of the park,

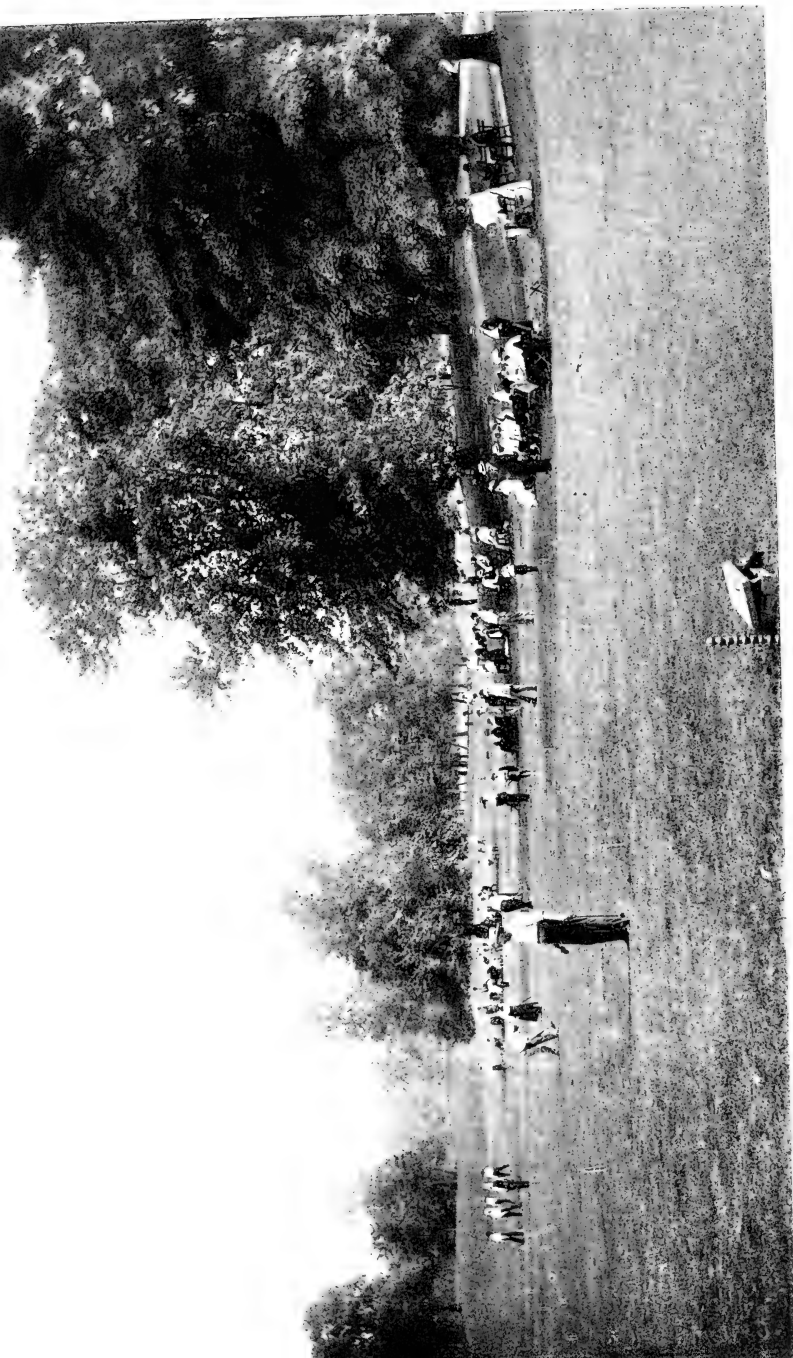
were confronted, therefore, with a sad condition of things. The great design had never been completed and such beauty as had been secured in large degree had lapsed into decay.

At the time a commission of experts was employed to confer with the park authorities with a view to devising a remedy for this incomplete and decaying condition of the park, while the press insisted loyally and persistently that New York should safeguard its greatest art treasure from failure and decay at any cost.

Year after year efforts were made to secure appropriations for the prosecution of the work of restoring and renewing the soil and plantations of Central Park, but all without avail. The authorities acknowledged the necessity for the work, but considered themselves unable to vote the money in view of the greater necessities of other departments of the city. Finally in 1907, after a specially convincing and complete report had been made by the park commissioner of that time, pointing out where in the park the work should be done and estimating the cost of such work, Mrs. Russell Sage came forward and generously offered to make liberal donations toward the restoration because her husband had always been fond of the park. Her noble gift of more than half a mile of rhododendrons resulted. Thus the great work of the restoration, and also it is hoped of the completion, has been fairly commenced. Surely from one source or another there is reason to hope that funds will be forthcoming to rehabilitate this



PLAY-GROUND LAWN IN CENTRAL PARK—BAD CONDITION



PLAY-GROUND LAWN IN PROSPECT PARK—GOOD CONDITION

COMPLETION OF CENTRAL PARK

most charming bit of water and sylvan landscape. In order to realize better the needs of Central Park and how much should be spent on it, it is worth while to turn to the chapter of this book which gives an account of Mrs. Sage's gift of rhododendrons. It might be interesting to go farther and state that the cost of the soil, clay loam, and humus used in making this plantation was \$20,000, while the total cost of the gift only came to about \$50,000. There are twenty tracts of the park where similar treatment should be given. Besides the need for restoration and completion already referred to, employment of new and rare species of trees and shrubs needs far greater attention. Certainly Central Park, in view of its reputation as the foremost pleasure ground of America, should present to the world an exhibition of landscape gardening art in its latest and most perfect expression.

III

A HILLSIDE PARK

ST. NICHOLAS PARK is built on a portion of a precipitous rugged mass of rock extending from below 110th Street up to 155th Street, New York City. From thence the same ridge extends along the speedway to Dyckman Street and is of nearly the same character.

It forms a distinct barrier between two portions of the city, both of which are now becoming populous. It is so precipitous that it is a hard climb to reach the upper level from the sidewalk. Steep roadways have been devised at a few points. By far the greater number of streets, however, abutting the park can not be carried across it at reasonable grades for traffic, this rocky tract forming an almost insuperable obstacle.

In order to use this ground profitably and devise ways of crossing for pedestrians, a series of parks have been bought and established by the city, including Morningside Park, St. Nicholas Park, and Colonial Park, all veritable steep hillside reservations, and the Speedway which is bordered by park lands of similar character, in all a distance of some five miles. The most noteworthy of these parks is St. Nicholas.

Along the upper level, a hundred feet above

A HILLSIDE PARK

St. Nicholas Avenue, is St. Nicholas Terrace, bordering the park for its whole length on the west from 130th to 141st Street. This terrace is supported by a rough cut-stone retaining wall from ten to thirty feet high. On this wall is built a cut-stone parapet of gray granite, and at intervals on its front are constructed flights of steps to the park below, with landings and balustrades. The space beneath these flights of steps is utilized for comfort stations, tool-rooms, etc.

On the extreme north corner of this park wall, on the other side of St. Nicholas Terrace, is situated the great quadrangular graystone Gothic mass crowned with numerous castellated turrets and towers, the five-million-dollar City College of Greater New York. This Gothic mass suggests and almost forces a Gothic treatment of the parapet wall, steps, and comfort stations. Opposite the main entrance of the college building comes naturally the most important entrance to the park, down winding flights of steps to the street below.

The park itself is narrow, and therefore only two paths are carried through its entire length. One on the higher level connects the various flights of steps; the other on a lower level connects the various entrances from St. Nicholas Avenue. Between these two longitudinal streets, transverse ones wind about, seeking the easiest grades up the steep slopes till they find their exit at the steps leading out of the park.

In order to secure reasonably comfortable grades for foot passengers, a large amount of cutting and

filling has been done, so that sometimes a path will lead through a rocky defile and again creep along the base of a cliff with grassy slopes falling away below. The curves and junctions of these paths are made with long flowing lines and easy turns at the corners. The lawn spaces are enlarged as much as possible because of their necessarily restricted area, extra rock having been blasted in many places to bring this about.

The general sweep and configuration of this side hill is kept as close as possible to the original surface as designed by Nature. In order to retain this appearance, the borders of the walks, especially where the land slopes off sharply, are mounded up so as to form a screen and prevent the eye detecting the walks from below, except in a few places, as where one approaches an entrance and necessarily sees much of the length of the walk. Along the steps, of which there are a great many, at points where the grades are too steep, the earth is mounded up in still larger quantities and rocks are used to diversify its effect. The borders of all these steps are planted heavily with trees and shrubs so as to mask them.

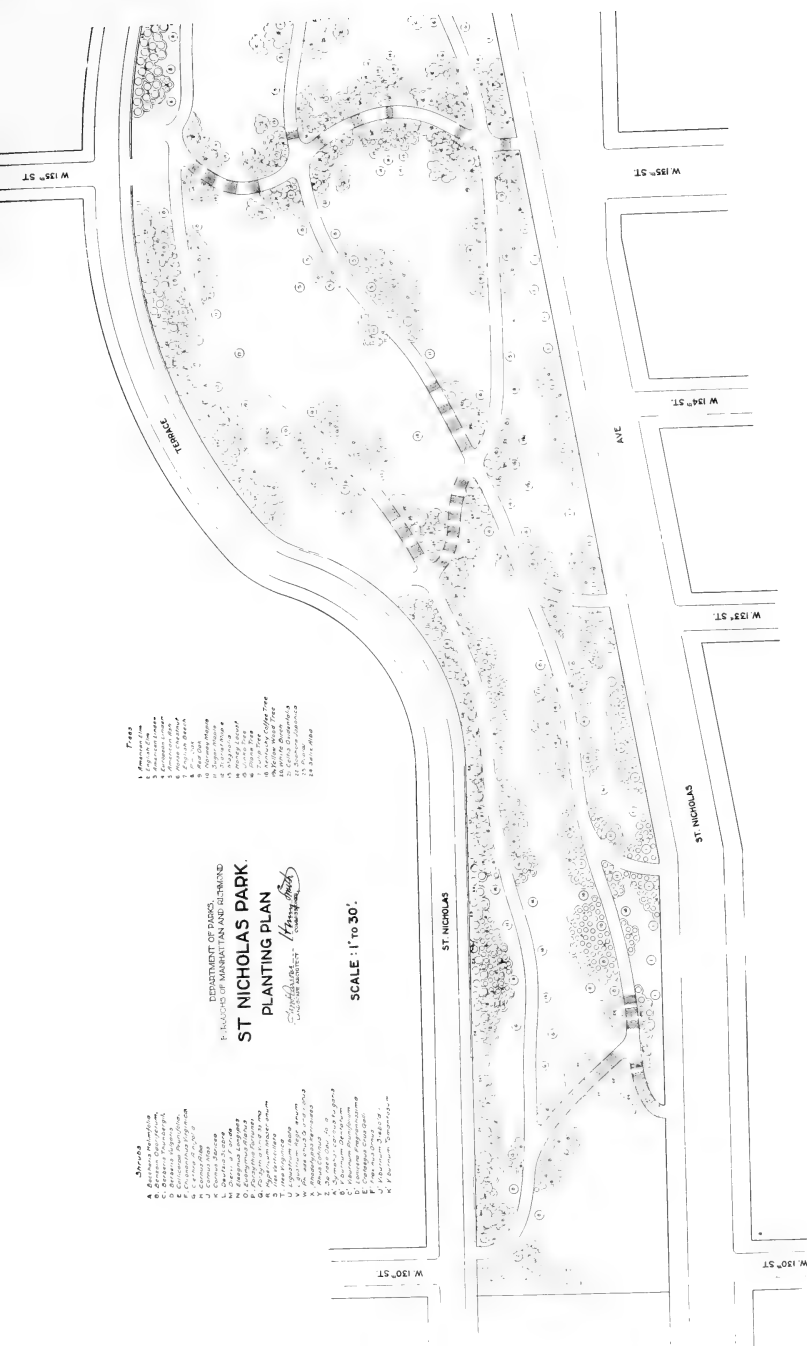
Trees and shrubs are also planted at the various junctions of the paths and about the entrances to St. Nicholas Avenue and around the flights of steps. Along rocky defiles are planted whole borders and masses of native gray willows and similar trees. On another hillside are set red cedars the conical forms of which tend to increase the appearance of ruggedness. This is done on the principle in

- Shrubs**
- A. Barberry
 - B. Boxwood
 - C. Burning Bush
 - D. Butterfly Bush
 - E. Camellia
 - F. Forsythia
 - G. Hydrangea
 - H. Japanese Anemone
 - I. Japanese Spirea
 - J. Lilac
 - K. Magnolia
 - L. Nandina
 - M. Osmanthus
 - N. Philadelphus
 - O. P. Broom
 - P. P. Broom
 - Q. P. Broom
 - R. P. Broom
 - S. P. Broom
 - T. P. Broom
 - U. P. Broom
 - V. P. Broom
 - W. P. Broom
 - X. P. Broom
 - Y. P. Broom
 - Z. P. Broom

REPLANTING OF PARKS
ST. NICHOLAS PARK
PLANTING PLAN
Landscape Architecture
HARRY SMITH
CONSULTING ARCHITECTS

SCALE : 1" TO 30'

- Trees**
- 1. American Elm
 - 2. European Elm
 - 3. European Larch
 - 4. European Larch
 - 5. European Larch
 - 6. European Larch
 - 7. European Larch
 - 8. European Larch
 - 9. European Larch
 - 10. European Larch
 - 11. European Larch
 - 12. European Larch
 - 13. European Larch
 - 14. European Larch
 - 15. European Larch
 - 16. European Larch
 - 17. European Larch
 - 18. European Larch
 - 19. European Larch
 - 20. European Larch
 - 21. European Larch
 - 22. European Larch
 - 23. European Larch
 - 24. European Larch
 - 25. European Larch
 - 26. European Larch
 - 27. European Larch
 - 28. European Larch
 - 29. European Larch
 - 30. European Larch



ST. NICHOLAS PARK

A HILLSIDE PARK

landscape gardening that the dominant note must be followed with a harmonious treatment, a high hill made higher, a rugged slope more rugged, a deep valley made deeper, thus invariably following Nature's lead.

All walks are shaded at intervals of forty to fifty feet with large trees; and against the supporting park wall above are planted masses of evergreens and deciduous trees and shrubs of a more or less woodland type. The largest types of trees are planted where the wall is highest, thus preventing their ultimate growth from shutting off the view from St. Nicholas Terrace of the park and surrounding country.

IV

A SEASIDE PARK

AT the foot of Ocean Parkway, fronting on Sea Breeze Avenue which bounds the bathing-beach at Coney Island, is a park completely exposed to the ocean. The whole side of the park bordering Sea Breeze Avenue is affected by the spray for a distance of a hundred feet into the park. On the west side are situated all the celebrated buildings for amusement, including Luna Park and Dreamland. For many years this park was a waste where only a few stunted trees and shrubs managed to live.

About seven years ago this waste land was covered from one to one and one-half feet deep with good top soil well supplied with clay brought from neighboring farm lands. The original flat surface of the ground was made more attractive by long flowing undulations by means of carefully managed grading. In low places, and especially where shrubs and trees were expected to stand, the layer of soil was deepened in some cases a foot or more. The original soil being nearly pure sand and the exposure most unfavorable to vigorous plant growth, this liberal supply of strong top soil was necessary.

The theory of the design of this park was to

PLAN OF CONEY ISLAND PARK

SCALE 1"=50'

Wentworth
Landscape Architect

W 3rd ST

W 1st ST

SEA BREEZE AVE

OCEAN PARKWAY

W 5th ST

CONEY ISLAND CONCOURSE

- | | | | | | |
|----------------|--|--|--|--|--|
| Trees | 1 Austrian Pine | Shrubs | A. <i>Rhododendrons</i> | E. <i>Ligustrum Regelianum</i> ,
<i>Baccharis Halimifolia</i> , and
<i>Viburnum Opulus</i> | H. <i>Ligustrum Ovalifolium</i> ,
<i>Phytolacca</i> , <i>Asplenium</i> , and
<i>Viburnum Opulus</i> |
| 2 Oriental Elm | B. <i>Ligustrum Ovalifolium</i> and
<i>Ligustrum Regelianum</i> | C. <i>Geranium sanguinea</i> , and
<i>Viburnum Opulus</i> | F. <i>Ligustrum Regelianum</i> ,
<i>Forysthia Fortunei</i> , and
<i>Viburnum Opulus</i> | K. <i>Ligustrum Ovalifolium</i> ,
<i>Phytolacca</i> , <i>Asplenium</i> , and
<i>Viburnum Opulus</i> | J. <i>Ligustrum Ovalifolium</i> ,
<i>Phytolacca</i> , <i>Asplenium</i> , and
<i>Viburnum Opulus</i> |
| 3 English Elm | C. <i>Geranium sanguinea</i> , and
<i>Viburnum Opulus</i> | D. <i>Baccharis Halimifolia</i> and
<i>Ligustrum Regelianum</i> | G. <i>Ligustrum Ovalifolium</i> ,
and <i>Hibiscus Syriacus</i> and
<i>Viburnum Opulus</i> | L. <i>Ligustrum Ovalifolium</i> ,
<i>Phytolacca</i> , <i>Asplenium</i> , and
<i>Viburnum Opulus</i> | M. <i>Ligustrum Ovalifolium</i> ,
<i>Phytolacca</i> , <i>Asplenium</i> , and
<i>Viburnum Opulus</i> |
| 4 American Ash | | | | N. <i>Ligustrum Ovalifolium</i> ,
<i>Phytolacca</i> , <i>Asplenium</i> , and
<i>Viburnum Opulus</i> | P. <i>Ligustrum Ovalifolium</i> ,
<i>Phytolacca</i> , <i>Asplenium</i> , and
<i>Viburnum Opulus</i> |
| 5 Norway Maple | | | | | |

CONEY ISLAND PARK

A SEASIDE PARK

carry walks around the outer portions of the territory, leaving a long oval with a broad stretch of greensward, a specially important feature in this arid region skirting the sea. At the junctions of the various paths and at the entrance gates abundant plantations of trees and shrubs were set out. The entire park is enclosed by a high iron fence to protect it from the multitudes that throng Coney Island many months of the year. The walks are made of rubble stone and trap-rock screenings.

The most interesting feature of this place is the planting. The trees and shrubs have been very successful all over the tract, except where the spray actually falls on them. The privets, plane-trees, and English elms (Wheatleys) stand the exposure specially well. Masses of hybrid and maximum rhododendrons and a few kalmias are planted at different points in the park and thrive remarkably under the unnatural conditions to which they are subjected. Nearly as hardy as the English elm and Oriental plane-tree are the American elm and Norway maple. Specimens of yellow birch also thrive, catalpa, pussy willow, weeping willow, and gray willow. Among the various evergreens that have been tried on this place the only ones which have done well are the Austrian pines of which twenty remain out of an original planting of twenty-six.

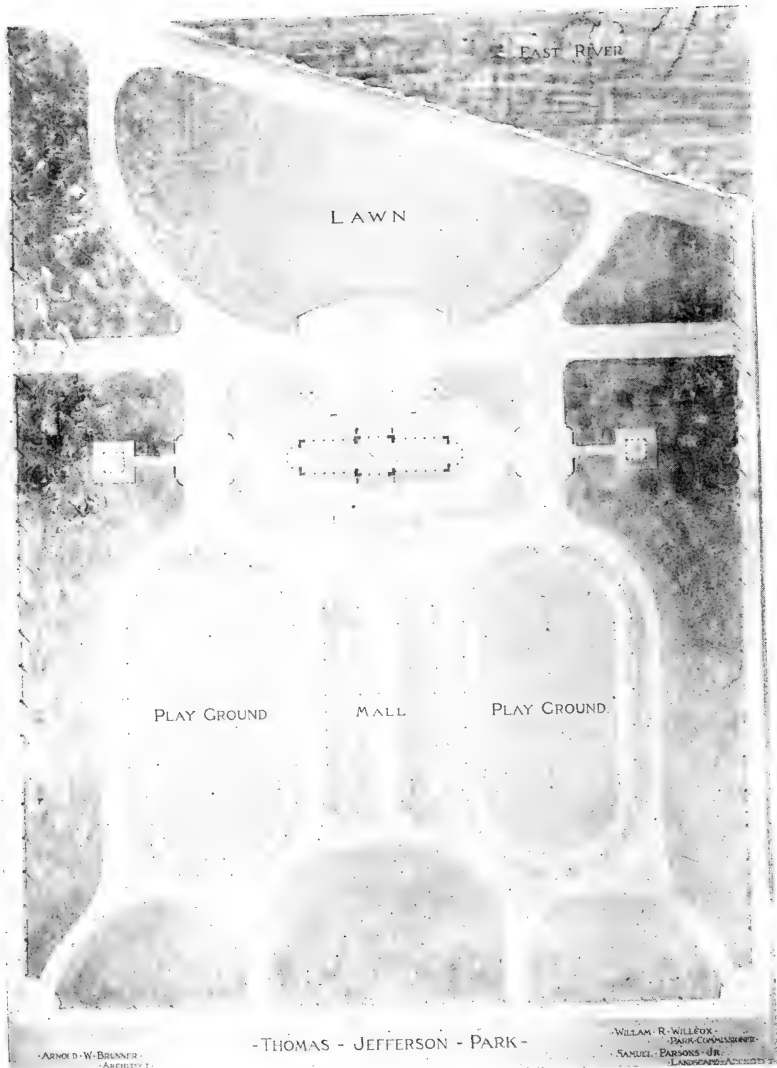
The deciduous shrubs that have succeeded on this place are somewhat numerous. Those that do the best are probably *Baccharis halimifolia*, or the groundsel; *Myrica cerifera*, the common

LANDSCAPE GARDENING STUDIES

bayberry of the coast; California privet and its relative *L. ibota*; hydrangeas and hibiscus succeed; the crimson rambler roses and viburnums; bush honeysuckles; *Philadelphus* and barberry, and even the white dogwood. Hybrid tea roses flourish in this sea air and even, in a secluded corner, the ordinarily tender *Aucuba japonica*, the bushy dogwoods, *Alba sanguinea*, and the others, *forsythia* and the Japanese raspberry (*Rhodotypus kerrioides*). These shrubs, helped by the rich clay-loam top soil, all are vigorous on the portions of the park where the spray does not reach them.

Another interesting feature of this park is the brilliant show of bedding-plants displayed throughout the season. Cannas, geraniums, and other plants of similar character are set in large beds. These bedding-plants seem better here by the sea than elsewhere.

Hydrants are placed at distances of two hundred feet throughout the park, and the needed moisture is liberally supplied grass, trees, and shrubs throughout the summer.



A PLAY-GROUND—THOMAS JEFFERSON PARK

V

SOME DESIGNS FOR NEW YORK CITY PLAY-GROUNDS

AT 111th Street on the banks of the East River is what may be termed a large city park devoted chiefly to children's play-grounds.

A reason for its existence just here is found in the thousands of Italians living in tenements all around the park and only a little further away even a greater population of Jews. The park consists of ten or twelve acres lying almost level between 110th and 114th Streets, with a gentle slope to the banks of the river across one arm of which, a short distance away, extends Randall's Island with its hospitals and House of Refuge.

From the extreme west of the park the effect obtained is that the river is lost to sight and Randall's Island appears to be a continuation of the park with no water intervening. On the edge of the gentle slope, about three hundred feet from the water, is a large handsome shelter building, the level of the floor of which is reached by steps. A band occupies this space during certain days throughout the summer, and the shade is always grateful to mothers, babies, and children at play. Underneath in the basement are shower baths for the use of the public.

On the other side of the house to the west extend winding walks enclosing somewhat formal areas of ground which are set apart for games of various sorts, gymnastics, ball, little children's sand piles, swings, older girls' basket-ball—in short, every sort of game that can be devised for girls and boys of various ages.

At the extreme west and bordering the main avenue is a considerable lawn. Around each of these plots for games shade trees are planted, and around the entire outer boundaries of the park is a high iron picket fence, with shade trees and shrubs arranged along its borders.

In front of the building toward Randall's Island is the only truly park-like feature on the place. Indeed, the only way to make parks to be used as play-grounds is to isolate certain territories on the outskirts of the park or across one entire tract and treat this in a thoroughly park-like manner. The play-ground portion can not be made to look like a park; but shade trees can be made to grow, provided they are well protected with tree guards. The boy, however, in his semi-civilized state will be sure to make war on trees and shrubs when at play; the fear of neither policemen nor parents will stay his hands. Sometime and somewhere his exuberant spirits will cause the foliage to suffer.

Essex St.

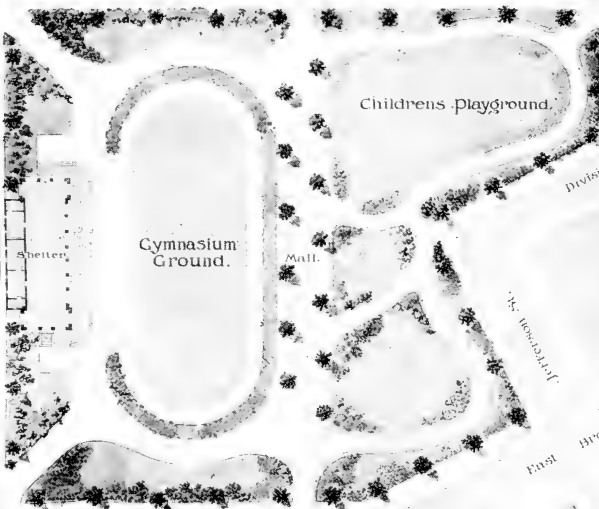
Hester St.

Suffolk St.

Division St.

W. Woodbury St.

East Broadway



PLAN
OF
WILLIAM H. SEWARD PARK.

Samuel Parsons, Jr.
Landscape Architect.

William R. Willcox,
President, Park Board.

A PLAY-GROUND—W. H. SEWARD PARK



11th Ave.



12th Ave.

PROPOSED PLAN:
OF

DEWITT CLINTON PARK:
between 32nd & 5th Sts 11th & 12th Aves.

Samuel Parsons, Jr.
Landscape Architect.

William R. Willcox.
President, Park Board.

A PLAY-GROUND—DE WITT CLINTON PARK

VI

PLAY-GROUNDS CONTINUED

WILLIAM H. SEWARD Park is situated along East Broadway, with Jefferson Street, Division Street, Suffolk Street, Hester Street, Essex Street, and Canal Street bounding it. This spot was a few years ago one of the most congested in New York City. The tenement houses which were cleared from this location to make way for the park were dilapidated and noisome in the extreme. The area is less than three acres, but around it is carried a real park effect of trees, shrubs, and lawns, with a central mall extending from Canal to Hester Street. On one side of this mall is a children's play-ground with every game and amusement for girls of all sizes. A high fence surrounds it in order to afford every means of protection to the little ones in this crowded part of the city.

High fences also surround the exterior boundary of the park, and around all grass plots are lower fences with pointed crestings to increase somewhat their effectiveness. A double row of trees is planted along the mall.

On the west side of the mall are a large gymnasium ground and running track, and back of that, adjoining the extreme west boundary, is a handsome building affording music and shelter for the mothers and little ones. Underneath it are many baths for public use. The walks are asphalted

and everything is done to protect the park from the persistent stress and wanton destruction of the surrounding mixed population.

Dewitt Clinton Park is a children's play-ground situated on the banks of the Hudson River, bounded on the west by Twelfth Ave., on the south by 57th Street, on the east by Eleventh Ave., and on the north by 54th Street, between nine and ten acres in extent.

This park is specially well arranged for the introduction of play-grounds. The borders on three sides are more or less steep and through the center extends a level plateau which has been made more level by grading. Walks wind up from all the four corners and at two intermediate points on one side and one on the other. The steepness of the ground makes it possible to produce a picturesque, park-like effect of trees and shrubs over a large extent of the territory.

Natural rocks appear in several places throughout its surface. A broad path leads from the center of the park on Eleventh Ave. to a gymnasium ground surrounded by trees; and in front of this, on an undulating lawn of its own, is a fine music stand. Beyond this a farm garden for children has been established and five hundred or more little ones from this neighborhood farm their little plots throughout the season. Beyond this, in turn, on a high, steep bank overlooking the Hudson, extends a long pergola or arbor beneath which are rooms used as night schools by the farm children, where they are taught domestic economy.



VIEW OF FIFTY-NINTH STREET POND IN CENTRAL PARK



ANOTHER VIEW OF FIFTY-NINTH STREET POND IN CENTRAL PARK

VII

LANDSCAPE TREATMENT OF LAKES AND PONDS

THE pond in Central Park is close to the 59th-Street entrance near Fifth Avenue; it lies thirty feet below the surface of the street and is long, winding, and narrow. Much of the effect of this sheet of water was increased by piling on the precipitous shores on the northwest side quantities of the earth excavated from the lake, which was probably originally only a stream. On the southeast side the ground was graded more gradually in order to carry a walk along the borders of the water and further to give more suitable planting-space for the large trees between it and the street. On the high rugged promontory to the northwest were planted large trees to increase further the effect of height. This ruggedness and picturesqueness are made more noticeable by the way the lake is led to wind and lose itself behind the promontory, terminating at a grassy slope or dell which completes the picture.

To the northeast, at a narrow part of the lake, a bridge spans the water. It is built of large bowlders of native stone, with the joints so made as to hide the cement. The weather-beaten surfaces are exposed and there is very little sign of the tool on the bridge except where a bluestone coping finishes the top surface of the balustrade

and where the arch stones perfect and hold together the structure.

The entrances to this massive stone bridge are heavily screened with quantities of trees, shrubs, and vines, particularly the ivy-like creeper *Ampelopsis veitchi* clinging by its rootlets to the rough surface of the bridge and covering a considerable part of it. Here and there within a short distance of this bridge, and at intervals all along the shores, bowlders are seen just above the water, and back of these, extending over the water, grow white birches and other woodland trees. Wild shrubs, sumacs, and dogwoods appear among these trees and extend up the hillside in great masses. A walk leads over the bridge and alongside a little dell at the end of the lake to the Sixth Avenue entrance at 59th Street. Along the precipitous sides of the promontory on the northwest side of the lake no walk is made.

The walks on the other side of the lake are planted with trees of a less woodland character—European beeches, Norway maples, and others. The view to the north from the bridge completes the charm of the picture. The eye is led through a series of pools and connecting rivulets away from the lake past low undulating grassy banks and obstructing bowlders into an ever widening lawn, where it loses itself at the base of a gentle slope merging into the woodland beyond.

The planting of this lake and the curves of the shores are all designed to give limited views, except at one or two unexpected points.



VIEW OF LAKE IN CENTRAL PARK



VIII

PARK TREATMENT OF CEMETERIES

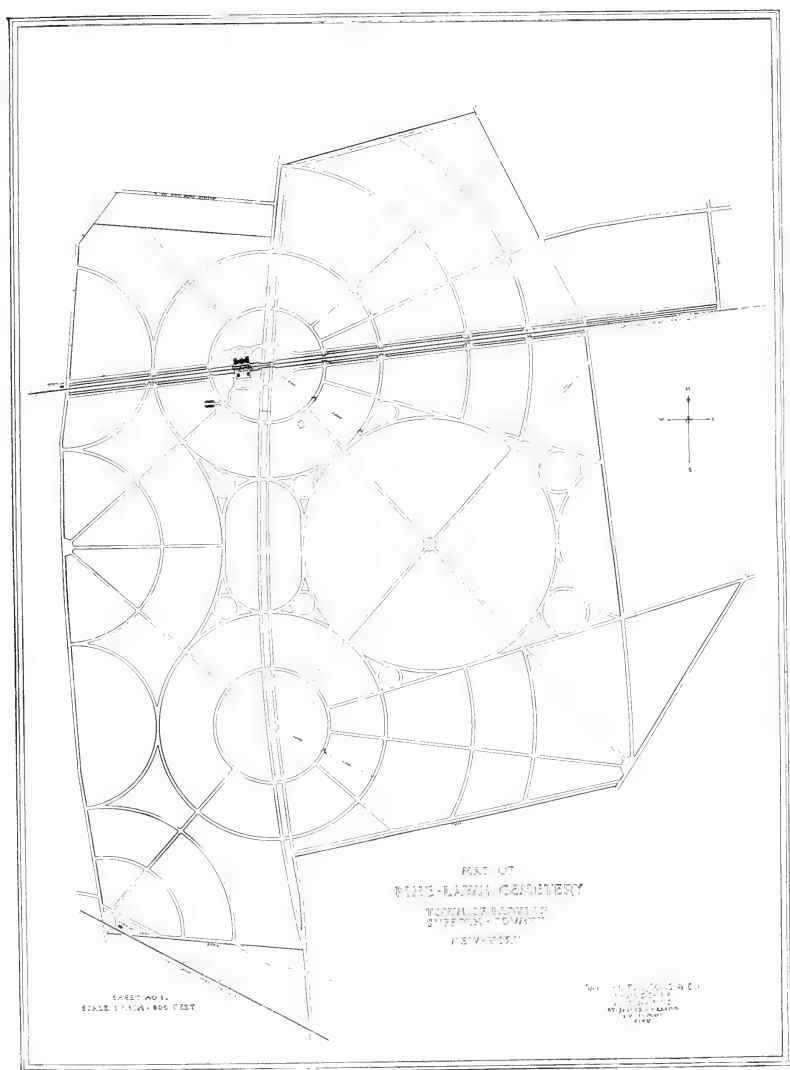
IT is unnecessary in this present day and country to advocate the use of the parking system in cemeteries. Its value and beauty are generally conceded. The difficulty experienced, however, is so to balance the portions used for lots and those set aside for parking effects, that the picturesque, natural scenery appears dominant, and the land sold for burial purposes is retained in sufficient quantities to insure a financial success of the enterprise, which, after all, is the controlling consideration. It would be well in the beginning to make a general and emphatic protest against all designs involving a gridiron arrangement of lots. This should not, of course, be understood to imply that one or more angular lots might not occur here and there in the general scheme. All this would depend largely on the character and configuration of the land. For the same reason it is difficult to make hard and fast rules as to the arrangement of any cemetery grounds. Three things, however, should be barred in park cemeteries: they are fences, hedges, and tall monuments.

The simplest way to illustrate the proper development of cemetery ground is to consider an actual example on Long Island. The problem that presented itself was a treatment of two thousand acres of nearly level territory supporting a few

scattering pines within its area. In order to avoid the monotonous treatment which the place distinctly invited on account of its level surface, the scheme of a series of concentric circles was devised because it was recognized that the best effects of park design are produced by massing large features of the landscape together and securing prolonged vistas and continually curving lines in every direction.

The whole area was bisected by two long avenues running nearly at right angles. At the intersection of these roads was established a large park of seventy-five acres which was devoted entirely to lawns and trees, burial places being excluded. Extending in four directions from this center a series of concentric circles were laid out, with one of the avenues before mentioned in every case passing through the center; and connecting the different circles were various areas of irregular form with roads devised to fit their outlines.

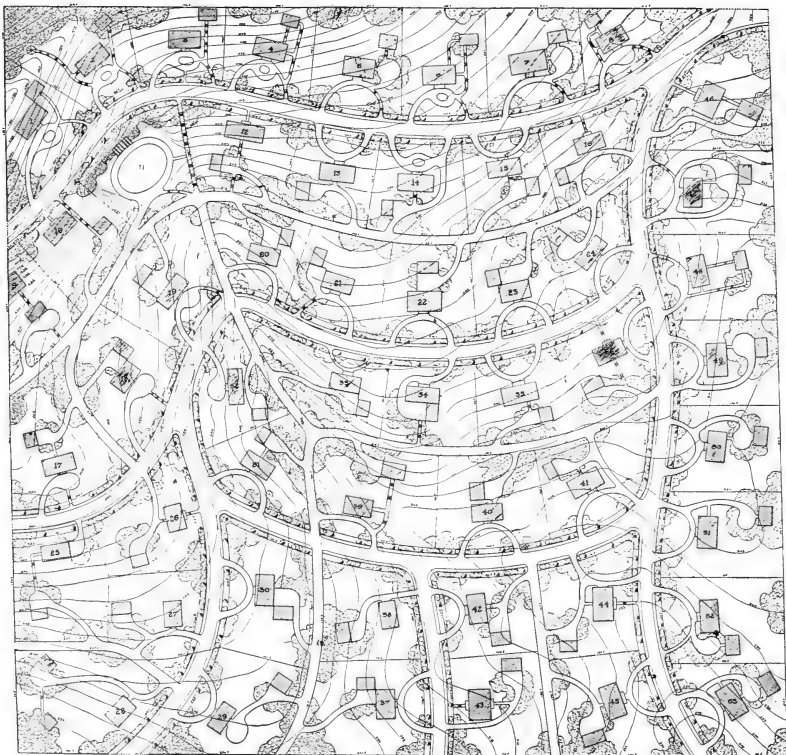
The interior of these concentric circles was arranged for burial lots by more concentric circles with connecting roads and paths just as in the larger scheme. The curve of the arc of these circles forming a side or an end of an individual lot was so slight that its deviation from a straight line was barely noticeable, yet viewed as a whole the gridiron effect was entirely eliminated. Points or areas were established at the center and other portions of the curves where trees and shrubs could be planted in such masses as would secure a natural park-like effect.



PLAN OF PINE LAWN CEMETERY



PLAN FOR PROPOSED DEVELOPMENT
"GLENWOOD,"
 BIRMINGHAM, ALA.



All dimensions are approximate

SCALE: 1"=50'

*Samuel Ferguson & Co.
 Landscape Architects
 25 South 8th Street*

VIEW OF MOUNTAIN TERRACE

IX

HOMESTEAD PARKS

IF we find the gridiron design or checkerboard pattern frequently applied to cemeteries, even more do we find it applied to real-estate developments for the purpose of the sale of lots.

The profit to be derived governs in both cases. Greater foresight should be used to insure beauty as well as convenience and comfort. If one would but think a moment it will be evident that such a combination commands a higher price than convenience and comfort alone. It is possible, of course, on a perfectly level plain to devise a square system of lots that will give a picturesque effect by the use of trees and shrubs in a park-like way, each plot indeed being a miniature park. But such conditions rarely prevail and even then, as we have seen in the case of Pine Lawn Cemetery, there are more attractive ways of accomplishing the same result. Each hill and valley, whether large or small, in a park of this character has a definite individuality of its own—an outlook, a vista, a charm of contour that may be retained by proper subdivision of land.

In order to illustrate the application of the above principles it will be helpful to refer to Albemarle Park, built a number of years ago, and

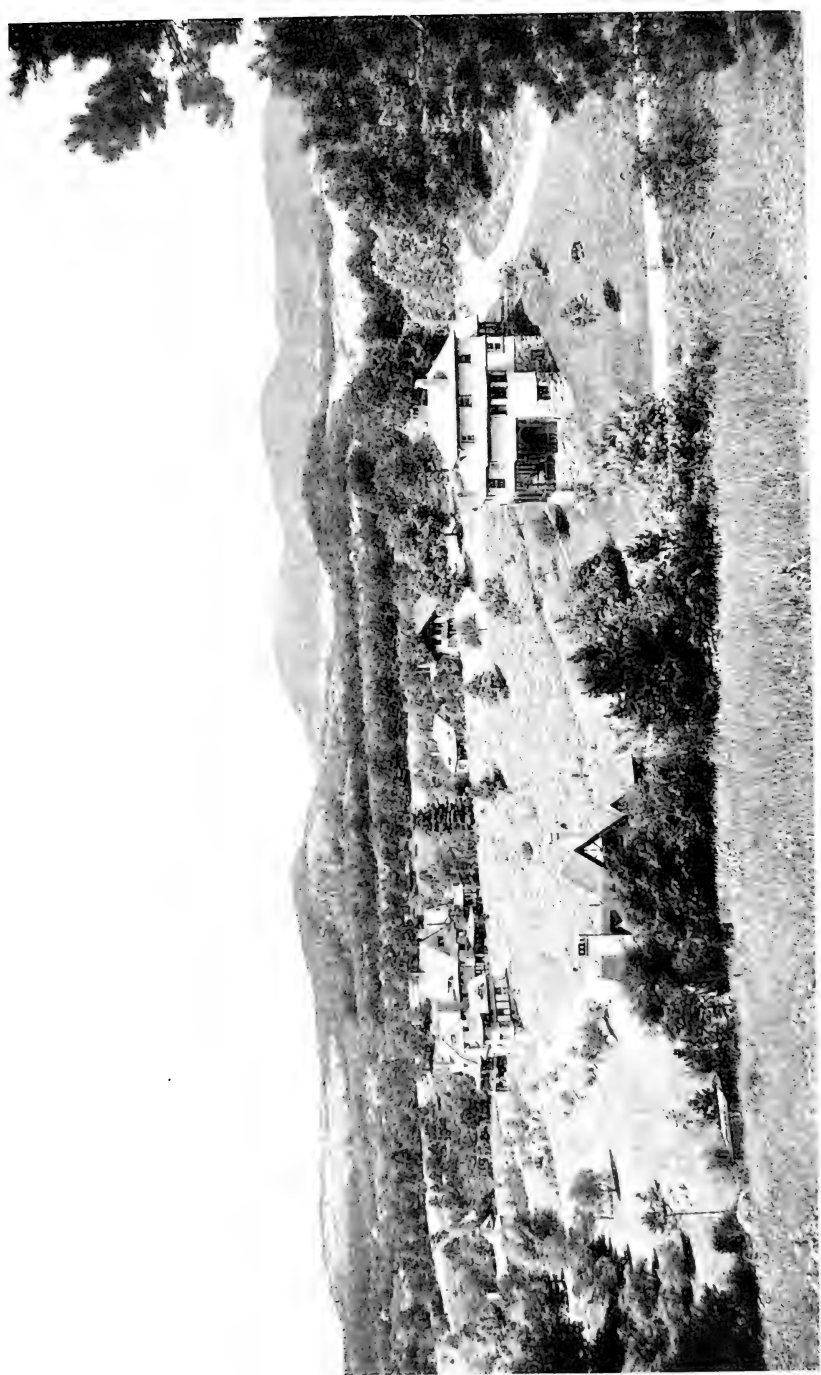
Mountain Terrace, a similar reservation recently treated in the same manner.

Albemarle Park is a tract of land of about sixty acres situated in Asheville, North Carolina. The scheme is the usual one of a hotel with cottages around it. The unusual feature of the place is its steepness. The natural contours in many places will hardly allow one to reach its upper portions without the most strenuous effort. Consequently it is not surprising that the roads ascend on this place with almost spiral curves as may be seen on the accompanying plan. The entrance to the place is happily worked out by the architect in a simple building with a reasonable amount of distinction, with a fine archway giving a glimpse up a winding road. This building is largely massed with trees and shrubs.

The lots on this territory are naturally hilly and sometimes the front door has to be reached by steps. But the very ruggedness of the ground suggests more picturesque buildings and the winding of the roads gives opportunities for masses of foliage to increase the beauty of the place.

The views from points all over the park, as one comes from behind a mass of trees or foliage, ranges over the most entrancing scene of mountain and valley, and at the highest boundary of the place one emerges on a road called Sunset Drive which commands the most distant and striking prospect.

The lots, which range from one-half acre to three acres in extent, were in each case carefully



PLAN OF GLENWOOD (A HOMESTEAD PARK)

1900

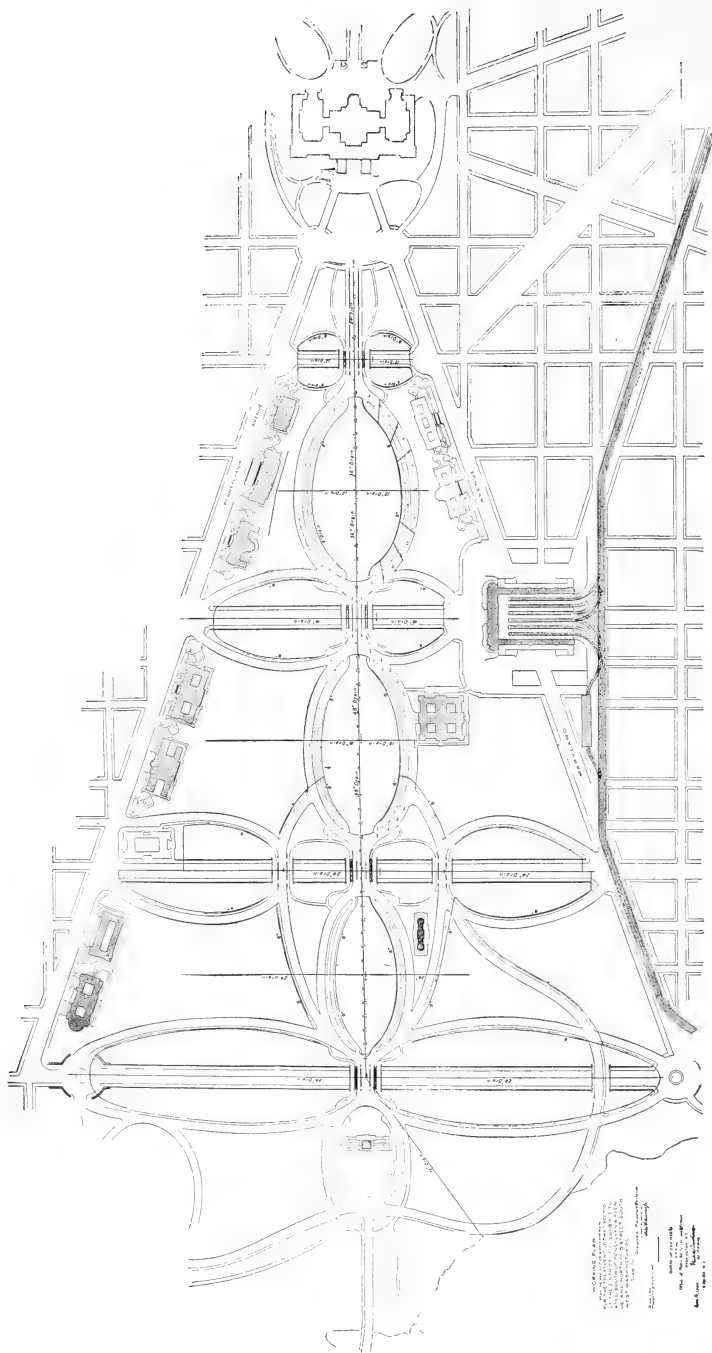
studied with the architect in the original plan. The spot for the house was designated. The scheme for planting was worked out and in many cases carried out. Individual taste was allowed to dictate preferences as to the use of certain trees and shrubs within certain areas of the lot. Nothing was permitted, however, that would tend to destroy the natural woodland effect. Indeed, very many native trees were left standing. Many lots had a bit of lawn, a house, a few natural shrubs like dogwoods, and a background of native trees.

It should be understood that, although every appearance of naturalness is preserved in the contour, even to the steep declivities of the hills, much change of surface has to be made to keep steep hillsides from washing and to soften by filling the rough and deeply scored hollows and uneven depressions.

To illustrate further this method of treatment of a building-lot system, reference may be made to the Glen Wood tract at Birmingham. Here we have a territory, generally of a less steep character, with lower hills around it. The bird's-eye view of the park, as seen in the picture, indicates the way in which roads on such territories have to find their way along the contours, creeping up the hillsides on the easiest possible grades.

It will be noticed that in this tract of fifty or sixty acres few main roads are used. The lots are so irregular and difficult of approach on most sides that it is necessary to carry small winding drives to many of the lots so as to make them

properly available. Walks are made in the hill-sides, five or six feet or more above the drives, and narrow alleys are sometimes employed to reach a stable at the rear of a lot. It is interesting, however, to observe how completely every inch of ground is managed so as to make it salable in the form of a lot. Heavy cuts and fills occur throughout the roads on this tract, some of the grades being at least ten per cent. The lots themselves have not been changed in contour to any considerable degree, thereby allowing the native trees to stand in large numbers wherever they do not interfere with the construction of the house and lawn in front. Along the borders of the roads is a liberal space of greensward. Shade trees are planted three or four feet from the curb. Around the entrance gate of fine stone work appear great masses of foliage, rare and choice, including many evergreen trees and shrubs which thrive specially well in this climate. Another great advantage which this Glen Wood tract possesses is that its roads are curbed and guttered, macadamized and in some cases asphalted, sewered, and lighted with electricity.



PLAN OF PARK TREATMENT OF TERRITORY SITUATED BETWEEN THE CAPITOL GROUNDS AND THE
 WASHINGTON MONUMENT, WASHINGTON, D. C.

X

A PARK FOR THE NATIONAL CAPITAL

IN 1900 Congress passed an act providing for the preparation of plans for the creation of an extensive park, covering about three hundred and fifty acres in the center of the city of Washington, extending from the Capitol to the Washington Monument and beyond to the Potomac. The preparation of these plans was entrusted to Samuel Parsons who submitted his report to Colonel Theodore A. Bingham, Corps of Engineers, in November, 1900.*

The following extract from the report will give an idea of the scope of the undertaking and the general style of treatment proposed.

In seeking to solve the problem of designing a park in the heart of Washington, a park which will be worthy not only of a great city, but of a great national capital, it is highly important at the very outset to discover and define the natural limitations that grow out of the original structural lines of the landscape and out of the demands both of the residential and of the business interests of the city.

I think that these propositions will not be denied by persons who have really considered the subject:

* Fifty-sixth Congress, Second Session, Document No. 135.

(1) A park, as a pleasure ground, should be set apart and isolated as completely as art can contrive it from sound and sight of the surrounding city; and (2) On the same line of endeavor the interior of the pleasure ground should be made to suggest woodland and meadow scenery so laid out as to afford convenient and agreeable access, by means of carriage and bridle roads and footpaths, to all points of interest and landscape charm.

Such a treatment would also assume that while every condition necessary for the comfort and enjoyment of the public should be kept clearly in view, the landscape should be made to take coherent and artistic shape from the original peculiar genius or idiosyncrasy of the place.

Under these terms public buildings could not be generally included as part and parcel of the essential scheme of the park, but they would properly find special territories of their own on the borders of the main pleasure ground, where they could be screened with thickly planted trees, and given a landscape treatment suitable to their character.

In order to explain what I consider an ideal plan, I beg leave to call attention to the peculiarly fortunate outline and configuration of the proposed park. At present it is intended to cover approximately three hundred and fifty acres, which lie in a space bounded by Pennsylvania Avenue and B Street, S. W., with the Capitol looming up at the east, and Washington Monument at the west. An oblong territory occupied



Plas. 57 Head

STUDY OF BRIDGE OVER SUNKEN TRANSVERSE ROAD IN PARK TREATMENT OF
WASHINGTON PARK

A PARK FOR THE NATIONAL CAPITAL

mainly by the Botanical Garden, the Mall, the Smithsonian Institution, the Agricultural grounds, and the territory around Washington Monument, already belongs to the nation, and it is proposed to condemn by law and secure a triangle of land running from Pennsylvania Avenue on the north, B Street North, on the south, and 15th Street on the west. I would suggest that in addition to this land, in order to secure the ideal park, another parcel be acquired, bounded by Maryland Avenue on the south, B Street on the north, and 15th Street on the west; a range which would be wonderfully effective as seen from the base of the Capitol. There the view would widen over a great perspective that would include in its very heart the celebrated vista over almost level ground through grand old trees to the Washington Monument, which would be the very kernel and innermost jewel or shrine of the landscape.

No arrangement could be more fortunate than this. Its steadily widening reach and its unsurpassed vista would make as it were a foreground and park for the Capitol, emphasizing the fact that, owing to the special growth of the city to the west, this side has gained paramount importance.

The management of the streets is a difficult problem, if we adhere to the vital principle of isolating the park from the city, and recognize the fact that the grades of the streets can not be materially changed, owing to the proximity of the subjacent water. But the difficulty may be

overcome by retaining only cross streets for traffic, and turning them into transverse roads of ample width, screened by embankments of earth surmounted by trees on each side, and connected, at the center of the park and in the exact line of the vista, by bridges arching twenty feet above the present roadbed.

In this scheme most of the pleasure movement would cross the park by slightly curved but tolerably direct drives located close to the transverse roads, and nearly parallel with them, thus carrying out more completely the generally elliptical scheme of the park. This plan, whenever it can be used conveniently, has special artistic value, particularly when, as in this case, a blending veil of shade trees can be made to diversify the slightly formal appearance of the oft-repeated ovals.

This arrangement of drives and masked transverse roads, and bridges kept in close relations with the vistas, it will be readily seen, will naturally force the main scheme of park development into a series of ovals, commencing at the Capitol and extending to the White House, where the same idea is repeated in the already constructed ellipses of the White Lot and the adjacent public territory. It is a fortunate circumstance that the positions of the transverse roads cause the ovals steadily to diminish in size, dropping progressively to lower and lower grades as they approach the Washington Monument. Thus in the widening spread of territory they impart to the landscape a finished and consistent perspective, a harmonious cadence

and rhythm of effect, and a finely lengthened appearance of distance.

Outside the ovals, the simplicity and effectiveness of the symmetry of which constitutes the keynote of the park, we find the drives seeking the points of interest and convenience by long curving lines, which are so arranged as to mass together as much as possible wide stretches of lawn, and in that way increase the large and dignified quality of the design.

Owing to the concentration of the most distinguished park effects about the main vista and ovals, and owing to the proper demand that walks, bridle path, and drives shall be close to one another so as to afford easy human intercourse and to avoid the great inconvenience of losing one's way—a risk that accompanies a more wandering, loosely constructed system—I have placed the roads near the lines of the ellipses. I am convinced a greater variety of effective views can be secured in this way than in any other.

The treatment of lawns is simple. It is planned to leave hollows, meadows, and wide expanses of greensward, excepting on each side of the pathways and roads; there the shade of trees is encouraged, and, fortunately, easily attained. Extended masses of foliage already exist, portions of which, when displaced by the construction of the transverse roads, can be transplanted, after proper root pruning, to assist in emphasizing and extending the effects of the main vista to the Monument.

Concerning the parkway from Washington Monument to the Potomac and the Zoological parks, it should be said that, as far as the beginning of the precipitous portion of the banks of Rock Creek, a formal arrangement of footpaths, drives, and bridle roads is secured, whereby the house lots are reached by two roads, one on each side of the parkway. The space of eight hundred feet in the middle is occupied by a park drive, by footpaths, and a bridle road, each of which takes a direct course parallel with the adjacent houses, as shown in the accompanying detail plan.

When the parkway reaches the steep hillside of Rock Creek, it is allowed to seek the easiest grades. It occupies a large portion of the picturesque slopes with the winding curves of its drives and bridle paths, ending at the boundaries of the Zoological Park at the junction of Cathedral Avenue and Connecticut Avenue, where it completes its course in an entrance so enlarged as to include all three avenues.

XI

A MOUNTAIN ROAD ON THE HUDSON

ALL roads have a character of their own which affords some interest to the passer-by; but now and then a road is met that has a striking individuality, as is the case with one climbing Storm King Mountain. This road is replete with features peculiar to itself, rugged beauty, grandeur of outlook, and quaint woodland charm. Though some beautiful roads have been evolved in a haphazard way this is no chance road.

A quarter of a mile from the highway, in a nook blasted out of the rocky hillside, the house was built. After long study and much weary tramping a line of road leading to the house was devised, creeping along the difficult contours and crossing them at times so as to double twice on itself in a length less than a mile. It passed through thick woods; across deep ravines; plowed through necks of land, forcing its way upward to the house, its final destination. Much of the road was dynamited from the solid rock and the hollows were filled with the blasted fragments.

Thus a solid rock foundation existed everywhere either by nature or by filling. Rocky walls towered at places and at others steep declivities dropped abruptly away to unseen depths. At certain points drainage streams, flowing out of

the sides of the hills, crossed the drive and forced the construction of small bridges. For a large part of the way the presence of thick deciduous woods—oak, birch, beech, dogwood, and other native trees—mellows the sunlight which sifts through their leaves. Along the sides of the hill and slopes vines, such as Virginia creepers, bitter-sweet, woodbine, and other native climbers, relieve the torn surfaces. The great attraction, however, of this road are the vistas cut through the woods at various points, especially at the turns. From these outlooks wide-reaching views are obtained to the east and north over a broad stretch of the Hudson River for ten or fifteen miles. Across the river one sees to the southeast rugged mountains repeating on a smaller scale the effect of Storm King itself.

The grade of this road is necessarily steep, ten per cent in many places. As we climb around its sharp curves we suddenly come out on an open, comparatively level field with a lovely outlook toward the west and north of hill and valley dotted by human habitations at rare intervals. Above in its nook stands the homestead of Mr. Pagenstecher.

From this rugged shelf on one side of the house extends the opening into the forest, which has been cut away. Here through a narrow vista in the woodland the eye obtains another and wider view of the Hudson. Above the house rises ledge on ledge of rock clothed with trees, six hundred feet to the top of Storm King.





The wild fastnesses of this mountain road with its woods and flowers and utter seclusion, and glimpses of river and highland, have a wondrous charm in autumn. Then it is that the dogwoods, oaks, maples, and liquidambars turn crimson and gold with the shortening days of approaching winter. Not less beautiful are these woodland aisles clothed with snow when the autumn glories have passed. Through the bare branches we get glimpses of the Hudson, often ice-bound, but always grand and impressive.

Always this mountain road with its woodland beauty and its various distant views reveals continual charm throughout the changing seasons.

XII

AN AUTUMNAL HILLSIDE

OUT in the wild, rugged, broken territory of New York not far from Tuxedo is a steep hillside. All around are mountains, valleys, and lakes that suggest the wilderness of the Adirondacks. At its base is a wide-spreading mass of forest trees, where Nature placed them—chestnuts, oaks, and quantities of dogwoods. On top of this hill, two hundred feet high, a spot was found for a vine-clad arbor from which could be seen an extended view—homestead, meadows, lake, farms, forest-clad mountains, and valleys. On one side, the forest trees extend part way up the hill and include within their borders great masses of lichen-stained and weather-beaten rocks. Clustering among these rocks have been planted ferns, wild native azaleas, various wild flowers suited to shady places, sweet fern, *Comptonia asplenifolia* and hosts of small woodland plants.

Passing along the base of the hill by the edge of the forest a road has been carried from the more cultivated part of the place. Here a turn for the carriage encloses a group of tangled wild Michigan roses, six or eight feet high, which bear abundant clusters of small, single, pinkish-white flowers in late June, and from among them rise several fine

specimens of the *Andromeda arborea*, (*Oxydendron arboreum*), or sourwood.

This charming and little-known tree is from the region of Kentucky. It has large, deep green, velvety leaves and bears in mid-summer tassels or plumes of milk-white flowers, rising high above the mass of its foliage. This plant is used here to the number of many hundreds, extending right and left to the very crest. In autumn the richness of its color is unsurpassed. At certain hours of the day when the sunlight falls on these leaves its fire seems to have transfused itself into the texture of the leaf, so vivid is the color.

Another plant on this hillside that is equally rich in color but quite different is *Euonymus alatus* or Japanese burning bush. The color of its leaf is pure crimson of a peculiar shade. With the *Andromedas* are mingled large quantities of white flowering dogwood so well known throughout the country for its autumn color. Sumac springs up here and there, sweet gum, or liquidambar, and *Viburnum prunifolium* or nannyberry.

Down through the center from the arbor at the top of the hill extends a narrow open stretch. Here, in order to give a vista and sense of variety, were planted a lot of low shrubs red in autumn, *Itea virginica*. Along winding grassy paths skirt-ing the place are planted quantities of native azaleas and hybrid azaleas of similar shades, their autumnal foliage rivaling the beauty of their spring flowers.

Throughout this plantation are not only such

LANDSCAPE GARDENING STUDIES

trees as the liquidambars and red maples planted for autumn effect, but white birches and graceful ash trees to lend variety to the scene and enhance the typical woodland effect. Many smaller forms of woodland flowers and foliage are dispersed among the rocks, and on the banks are honeysuckles, saxifrages, sedums, and some wild grape vines. Standing at the base of this hill or in the vine-clad arbor at the top and looking over its steep slopes, the masses of rich color embraced by the eye form the ideal of an American autumn landscape.

XIII

THE COLONIAL GARDEN

IN Van Cortlandt Park, near the railroad station and the skating-pond, was until a few years ago a marshy depression lying four-square between high banks. To the north of it stood the colonial mansion of the Van Cortlandts.

In the course of time the Colonial Dames leased this mansion for a long term of years and filled it with all kinds of revolutionary and colonial treasures.

Coincident with the development of this colonial treasure house the idea of a sunken garden was conceived. As it progressed in development, it took on naturally the term colonial by virtue of its association with the colonial mansion and because its character suggested the formality of the gardens of those days. Circumstances which very properly govern the design of gardens led to the use of canals on three sides. Owing to the fact that a rapid stream ran out of Van Cortlandt Lake a few hundred feet away, these canals were employed to curb the irregularities of the stream and give a definite boundary to a greater part of the garden. The presence of these canals has suggested the name Dutch Garden which it is sometimes called, but in reality the Dutch character

ends with the canals themselves. Nearly everything else recalls American scenery conventionalized.

The garden is arranged in squares and planted formally for the purpose of conveniently exhibiting its tree-and-flower effect to those using its paths. The banks surrounding it have no formal lines in their treatment, being left as Nature made them, except that their natural charms are enhanced by plantations of native shrubs, rhododendrons, laurels, dogwoods, etc.

In the center of the group of squares is a circular fountain basin with water-lilies. The spray from this is reduced to such a degree that the aquatic plants are not injured by the spatter of the water. On the outer edge of the open space around the fountain are seats. Behind these again are large specimens of the beautiful American shade tree, the bronzed leaf ash, which naturally assumes formal and compact shapes. These trees stand also on the extreme outer boundaries on the corners of the tract and form the most striking feature in the garden. Lower, more refined and delicate, and less positive in tone are the pairs of weeping birches set on each side at the entrances to the bridges which cross the canal and lead to the central fountain.

A scheme of pairs of specimen evergreens on each side of the walk, and opposite each other, is established throughout the place. Every one of these specimens, which consist of junipers, spruces, arbor vitæ, pines, yews, hemlocks, and



PLAN OF COLONIAL GARDEN IN VAN CORTLANDT PARK

other erect-growing trees and shrubs, is carefully arranged in relation to its neighbor to secure the most agreeable gradation of color from golden green to the almost black tone of the yews.

A touch of golden color is allowed here and there, but is kept thoroughly in abeyance; for yellow is suggestive of abnormal and unhealthy conditions—decay.

A large part of these squares is left open and free to encourage a rich velvety turf intended to lend breadth and dignity to the picture. In front of the evergreens along the borders of the paths comes the floral or perennial plant effect in narrow beds. These beds are about eight feet wide and all parts are easily reached from the path or greensward without trampling the plants. The height of these plants is kept comparatively low by selecting lower-growing species in order to retain the breadth and simplicity of the place. Plants from six inches to three feet high are used, and consist of certain kinds of irises, hardy tulips, narcissi, anemones, columbines, pinks of various sorts, sedums, saxifrages, coreopsis, daffodils, larkspurs, fox-gloves, hollyhocks, hyacinths, the more dwarf forms of lilies, lilies of the valley, peonies, phloxes, salvias, snowdrops.

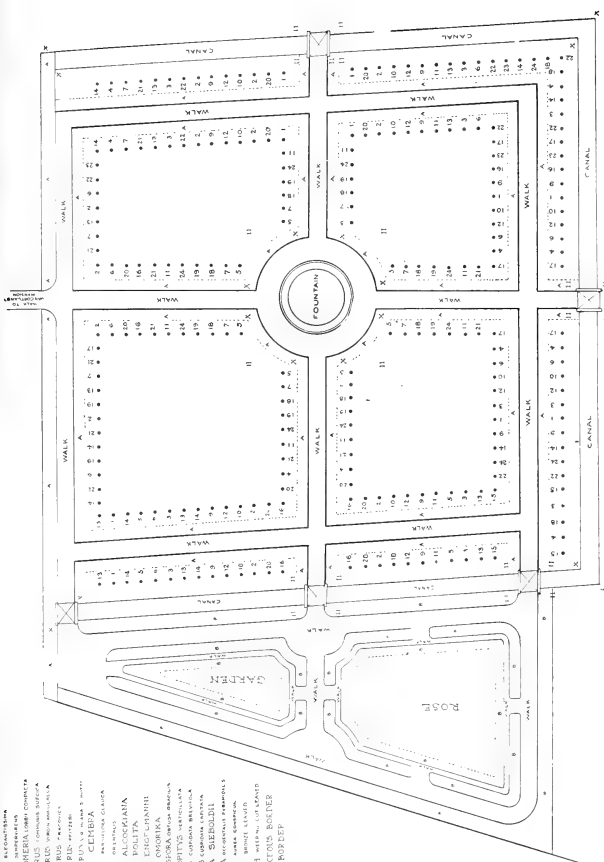
Beyond the canals at the west, as far as the bank, is arranged a rose garden with the climbing sorts on the outer borders covering the bank or trained on trellises. Within the area are the free-blooming sorts that flower from June to October.

It should be explained that, in order to secure

a well-drained and fertile soil for this garden, it was found necessary to raise the level with many thousands of cubic yards of ordinary earth to overcome the ill effects of the underlying marsh land on which the garden is built. Sufficient agricultural tile drainage was used to prevent the undue accumulation of water from any source. Over this tile drainage was spread a layer, about one foot and a half thick, of rich garden mold containing well-balanced amounts of the necessary constituents of fertile soil, sand, clay, lime, and humus.

The lawns were sown, not sodded. The borders of the walks were sodded at least a foot wide and the walks themselves were made with rubble foundations and trap-rock screenings. Instead of balustrades or rails, the borders of the entrances to the bridges and the steps of this garden are guarded by means of rock-work contrived to resemble nature, the rocks peering out here and there from the earth, with vines and low shrubs and birches intermingled.

- 2. ARECA *Coccothrinax*
- 3. PALM *Phoenix*
- 4. PINE *Pinus*
- 5. CRYPTOMERIA *Camellia*
- 6. JUNIPERUS *Juniperus*
- 7. HIBISCUS *Hibiscus*
- 8. HIBISCUS *Hibiscus*
- 9. HIBISCUS *Hibiscus*
- 10. HIBISCUS *Hibiscus*
- 11. RHOD. CINCIA *Rhododendron*
- 12. BIGN. *Bignonia*
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COLONIAL GARDEN VAN CORTLANDT PARK

LANDSCAPE ARCHITECT

SCALE
1" = 10'

PERSPECTIVE VIEW OF COLONIAL GARDEN IN VAN CORTLANDT PARK

XIV

TWO COUNTRY-PLACES

A COUNTRY-PLACE like the one we shall now consider at Carlisle in the rich farming land of lower Pennsylvania, has many advantages. The country is gently rolling and the soil is a sandy loam free from stone and naturally fertile. The place is situated between two roads and ends at their junction. It is in wedge form and about fifteen acres in extent.

The house was an old-fashioned one and has been given the modern colonial touch in the way of columns and other classical suggestions. A number of fine old trees, maples, elms, chestnuts, etc., exist in the neighborhood of the house. Otherwise the area of the grounds had been given up chiefly to meadow and pasture lands. When the recent improvements were undertaken the ground was found covered with a dense growth of alfalfa, and though by nature beautifully rolling with gentle swells, the entire territory had to be broken up and graded in order to manage the drainage properly and to soften all contour lines. For the purpose of securing the most effective approach to the house and of giving opportunity for effective grouping of trees and shrubs with long vistas, the main road was brought in near

the extreme apex of the place. After passing thirty or forty feet into the grounds this road turns with a short sweep to the middle of the property and then follows its course on long gently curving lines which gradually approach the rear of the house situated on a plateau, thus affording a fine view of the most attractive side of the building.

Just after the road passes the house it divides, going in one direction to the garage and out-buildings, and in the other to a turn in front of the main entrance to the house and then off to the extreme corner of the place to the highway. Two short walks lead to an entrance to the house from the main road. The endeavor has evidently been to give long graceful lines of roads and walks and so divide the territory as to set apart at least three large lawns with a long vista reaching across at least two of them.

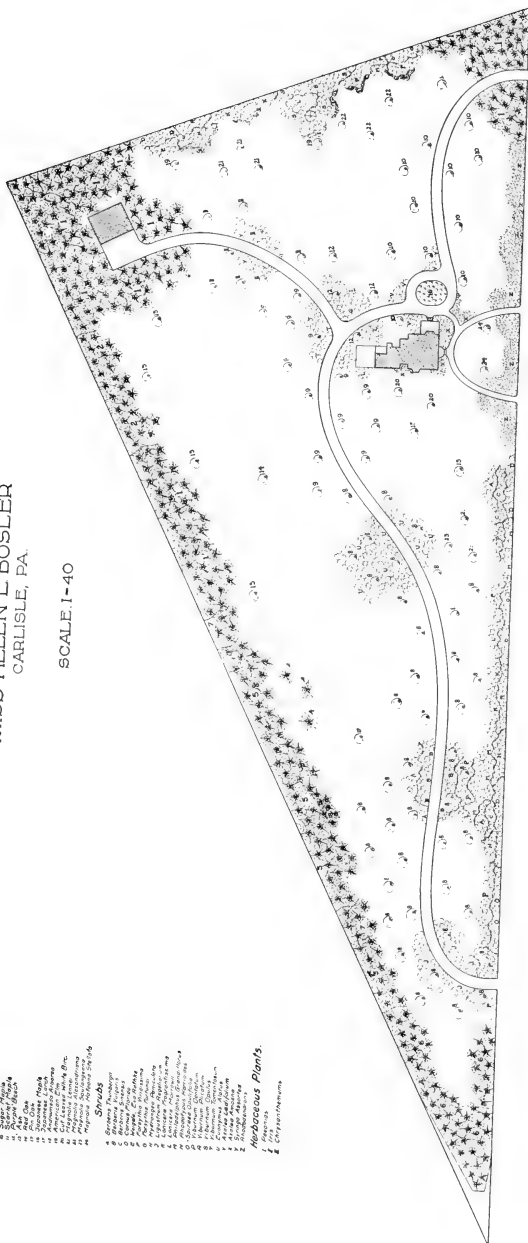
The planting on this place is especially worthy of attention because on a very favorable piece of land it illustrates well how open lawns and attractive approaches can be greatly improved by a carefully devised scheme of planting.

At the entrance gate near the apex of the property are planted two Norway maples, one on each side. Around them are *Forsythia viridissima* with their yellow flowers and vigorous growth. Smaller in growth and size of leaf, but picturesque and compact, are the Regel's privet planted on the turn of the road on each side.

At the apex and farthest point of the place, about three hundred feet away, are planted a mass

PLAN OF ARRANGEMENT
OF GROUNDS OF
MISS HELEN L BOSLER
CARLISLE, PA.

SCALE. 1-40



PLAN OF MISS BOSLER'S GROUNDS, CARLISLE, PENNSYLVANIA

Samuel Parsons & Co.
Manufacturers of
St. James Bags, New York

TWO COUNTRY-PLACES

of hemlocks. The theory of the planting of evergreens is to shut in the coldest exposure of the place and give it greenness of color the season through and the sense of warmth in winter. Following the most approved practice, almost all the evergreens on this place are in one great mass or series of groups blending one into the other.

It might be well to point out that in this particular situation some considerable length of factory buildings thrusts its ugliness into the view of nearly the entire area of the landscape treated. To shut out this objectionable feature as quickly as possible a number of white willows were planted, and mingled with them were a few of the red-stemmed kind. These willows were intended to grow rapidly to a great height and then to be removed when the evergreens had grown to sufficient size to screen the place satisfactorily.

The majority of the evergreens used were white pines, Douglas spruce, Colorado or blue spruce, the Oriental spruce, and Alcock's spruce, all of which are hardy, compact, and in the course of years attain great size.

Extending all along the fence bordering the highway clear to the house are irregular groups of shrubbery disposed in bays and points of foliage so as to give a park-like effect. These shrubs are dwarf barberries, white flowering dogwoods, forsythias, hydrangeas, bush honeysuckles, snowballs, and here and there dotted among them several specimens of the beautiful Chinese and Japanese magnolias.

LANDSCAPE GARDENING STUDIES

The drive itself is shaded with maples, elms, and ashes planted at irregular distances from the edge of the road and occasionally running out into the lawn so as to take away the effect of a mere open field. At intervals on the turns of the road groups of large-sized shrubbery are thrown boldly and effectively on each side so as to give a sense of variety and surprise to persons driving to the house. As the road sweeps up to the house it finds masses of deciduous shrubbery and trees, shutting out the kitchen and laundry end. At the point where it reaches the front door and the large open porch a liberal turn has been devised, and here in the oval are planted two fine groups of Japanese maples and on both sides of the porch are arranged large groups of beautiful evergreen Japanese azalea *amœna*. A short path leads to the side of the house where is another door and two paths diverge a short distance to the street.

Massed on both sides of these foot entrances, and extending one hundred feet both ways along the front fence to where the deciduous shrubs begin, are masses of hybrid rhododendrons of the finest and richest-colored varieties backed up in the center by hardy native rhododendron *maximums*, while hybrid rhododendrons of smaller size and greatest beauty of flower are kept generally in the foreground. The outline of the bed and the contour of the masses change continually in graceful curves and billows of foliage.

A drive leads away from the main entrance of

TWO COUNTRY-PLACES

the house around the turn and out to the highway. Around this entrance large masses of white pines are grouped. From them, leading across the place to the evergreens which cluster around the garage, are masses of deciduous shrubs forming an irregular hedge with a number of large shade trees, existing and planted, rising from their midst.

The road from the house to the garage is shaded by occasional maples, and where it joins the main drive a considerable mass of trees and shrubs is gathered together. From openings in this road one can get a long view through a shallow valley unimpeded by trees or shrubs which wander out but do not obstruct it.

There are several other open lawns and vistas of a similar kind on the place, and the art of the planting is made to increase their value and effectiveness.

An Alabama country-place shows quite similar treatment in respect to contriving vistas and to planting on both sides of the entrance gate and at the sharp curves of the drive.

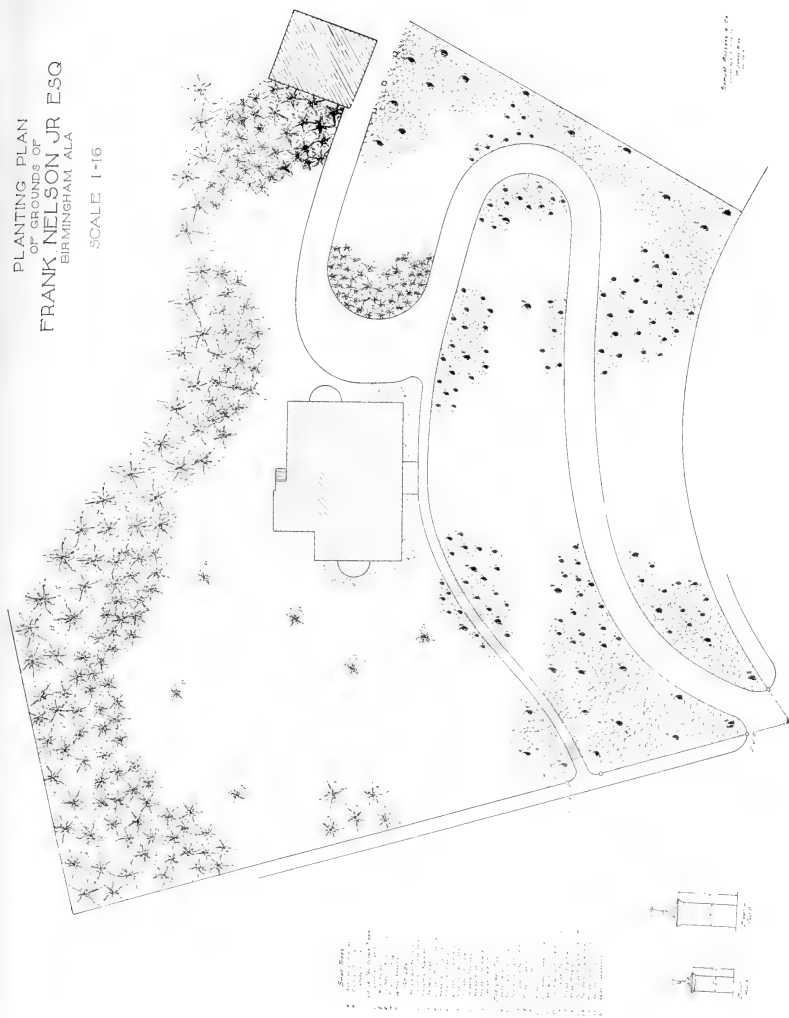
The hillside is extremely steep and, it will be seen, the road had to be contrived so as to run as much as possible on the contours of the property with considerable cut and fill at different points. The main open part is kept in front of the house so as to give a sense of breadth to the view from the principal entrance. The steepness of the road has been necessarily allowed to take the heavy

grade of ten per cent which is considered in most cases beyond the limit of comfort. Much of this hillside was sodded on account of its abruptness, and other portions of it were planted with Bermuda grass which thrives well in this climate and although brown in winter gives a beautiful green surface in summer. In some places this winter condition has been overcome by sowing perennial rye-grass which comes up quickly and gives a bright greensward during the winter months.

The peculiarity of the climate of Alabama is that, in spite of its being hot and more or less dry, a large proportion of the deciduous trees and shrubs of the North will grow there. On the other hand, many beautiful evergreens that thrive throughout Europe and do not thrive in the North will also grow there, such as the beautiful *Cedrus deodara* or Indian cypress, the southern *Magnolia grandiflora*, and others. It is a little too far south for rhododendrons to thrive well, but the shining leaves of the laurel seen in Great Britain by the million do well here, though in the Northern States they are almost always cut down by the frost. Large numbers were used on this plan at the points marked 15. Their growth is very rapid in this climate. It might be said that this remark applies to all trees and shrubs growing so far south, probably on account of the comparatively long seasons and the warm stimulating climate.

It may be noted that here, as was the case in

PLANTING PLAN
OF GROUNDS OF
FRANK NELSON JR ESQ
BIRMINGHAM, ALA
SCALE 1-16



PLAN OF F. NELSON, JR.'S, GROUNDS, BIRMINGHAM, ALABAMA

TWO COUNTRY-PLACES

the other country-place in Pennsylvania and as should be the case in all country-places, the evergreen trees are massed together in a territory by themselves, diversified only now and then by an outlying birch or other graceful deciduous tree. A group of the fine blue spruce of the seedling type, finer in color and shape than the deep blue of the grafted form, stands by itself in the middle of the lawn next to the street on a steep slope. Nearer the house are the beautiful blue concolor spruces with an English yew and a Lawson cypress not far away.

The mass of the evergreen plantation is made up of the Douglas spruce, Colorado blue spruce, hemlock, noble silver fir, and nearer the house the finer forms of the Indian cypress and pinsapo fir with a mingling of *Retinospora obtusa* and the green form of our northern red cedar. Near the garage are Douglas spruces, junipers, and *retinosporas*. In front of the house on the turn are more junipers and yews and near by are the laurel groves. These evergreens are located so as to shut out regions and buildings which need screening and to give a warm, solid background to the home territory throughout the year.

In front of the house alongside the road and walk are masses of deciduous trees and shrubs so disposed as to open unexpected vistas and shade the place. The trees are the ordinary ones of the North, elms, lindens, plane-trees, and the quaint and hardy ginkgo or maiden-hair tree. Adjoining the house in beds around the bay-

windows and corners and alongside the entrance are *Azalea amœna* and one or two other forms of the beautiful flowering Japanese azaleas, and bush honeysuckles. The autumn colors of this place are illustrated by masses of white flowering dogwoods and the native *Andromeda arborea* or sour-wood.

XV

A JAPANESE TEA-GARDEN

UNDER the unfavorable circumstances for locating a Japanese tea-garden, a landscape-gardening project at Southampton to which we shall now give attention, the best that could be done was to hide it in a corner, where large trees screened its sides and rear with the help of an adjoining carriage-house and garage. In front, a softly rolling lawn extended one hundred yards to Mrs. Thompson's cottage and a little to the south more than twice the distance to the shores of a lake.

The building erected by Japanese carpenters was, for a tea-house, somewhat lofty, but picturesque and characteristic. It was impossible to give the full Japanese spirit to the surroundings on account of conditions; therefore, it was thought best to avoid the introduction of many common features of Japanese gardens such as artificial pools, iris borders, miniature winding streams crossed by diminutive bridges, and in addition numerous dwarfed oaks, pines, etc., a foot high and perhaps fifty years old. All this seemed too strained and artificial, in short, entirely unsuited to the place.

The trees and shrubs used were simply Japanese, the growth of some of which in time would be

LANDSCAPE GARDENING STUDIES

twenty feet or more and tend to shut in and isolate from the rest of the place the Oriental air of the building.

These trees consisted of cryptomerias and the following :

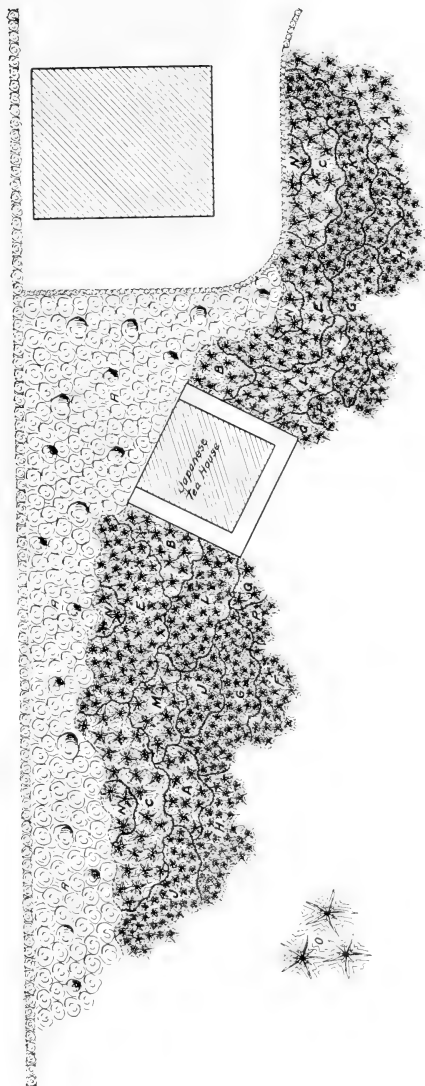
Juniperus Chinensis, Arg. Var.	Retinospora obtusa lycopodi-
Juniperus Japonica aurea	oides
Juniperus Japonica pfitzeriana	Retinospora obtusa tetragona
Juniperus squamata	aurea
Retinospora obtusa gracilis	Taxus cuspidata brevifolia
Retinospora obtusa gracilis	Tsuga Sieboldii
nana	Cryptomeria Lobbi compacta
Retinospora obtusa pygmea	Pseudolarix, Kaempferi
Retinospora obtusa nana aurea	Pinus Massoniana
	Sciadopitys verticillata

It may be possible in such a situation to make something that represents in a fashion a Japanese garden, though it is doubtful whether in America good taste in landscape gardening can afford to admit its presence, so alien is it to our modes of thought and action.

Under the best conditions, wherever visible in our landscape, any Japanese garden will be almost certain to strike a note of discord. The best that can be done with it, outside of an art museum, may be illustrated by a description of the way it was used on a small estate seen by the writer on the outskirts of Paris. Here a territory of three or four acres was treated in a thoroughly scenic and academic way. On one side of the French windows and open veranda of the villa were the vegetable garden and the outhouses. At the

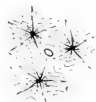
JAPANESE GARDEN PLANTATION.

SCALE:



- A. *Juniperus Chinensis*. Arg. Var.
- B. *Juniperus Japonica* Aurea
- C. *Juniperus Fritzeri* (Jap.)
- D. *Juniperus Squamata*
- E. *Retinospora Oblusa Gracilis* Nana.
- F. *Retinospora Oblusa Gracilis* Nana.
- G. *Retinospora Oblusa Nana* Aurea
- H. *Retinospora Oblusa Nana* Aurea
- J. *Retinospora Oblusa* Lycopersides

- K. *Retinospora Oblusa Tetragona* Aurea
- L. *Taxus Canadensis* Brevipolia
- M. *Taxus Sargentii*
- N. *Crataegus Lobbi* Compacta
- O. *Pseudolarix Kaempferi*
- P. *Ret. Filii* Aurea
- Q. *Scudicaphys Verticillata*
- R. *Rhododendron*



Samuel Parsons & Co
Landscape Architects
57 Union Bldg. New York.

JAPANESE GARDEN PLANTATIONS

front extended a bit of turf like a rich, green velvet carpet, bordering which bulked a thick mass of native trees, beeches, maples, elms, horse-chestnuts, etc. From the end of this plantation appeared a winding stream or brook, planted with wild flowers and spanned by rustic bridges, with groups of trees and shrubs used in a natural style, which contrived to help the perspective scheme and lent the effect of distance. This apparently completed the place, making Nature quaint, dainty, neat, polished, and highly civilized.

Passing down a walk bordering the main group of trees the *tour de force* of the place suddenly appears from unexpected spaces: a Japanese tea-garden and a perfect one. The brook is bordered by Japanese flowers and Japanese maples and cherries, both dwarf and large-growing. To complete it all, there appeared an actual Japanese home in the shape of a little cottage occupied by the gardener and his wife. The place was small, but the labor and genius applied to it were in their way astonishing. You were in another world when you reached it, and before you reached it you did not dream of its existence.

All this is very admirable and it is characteristic of the way the French do much of their landscape gardening. In America we want things different; hedge-rows full of bright-berried bushes and varied autumn colors; meadows full of pepperidges, liquidambars, and thorns growing in irregular groups along flowing brooks; wide-spreading grass lands backed by woods generations old; hillsides

of sumac and dogwood. On lines like these we should work out our landscape art in America, holding Nature as we find her, with only such changes as our daily needs demand in the way of comforts and conveniences and those horticultural enrichments which do not violate the native spirit of the scene.

XVI

THE SAGE SAG HARBOR HOME

MRS. SAGE selected a home in Sag Harbor because she had many relatives and associations there. The old homestead she had lived in as a child, and the entire town, recalled memories of her youth.

The house she finally bought had been, fifty years ago, the domicile of an old whaling merchant, and had the simplicity and dignity of the best houses of that period. High Colonial columns set off the front, extending two stories, as one often sees in New England. Such a place, it was thought, should be kept with as little change as possible, so much only as was essential to fit the necessities and comforts of modern days.

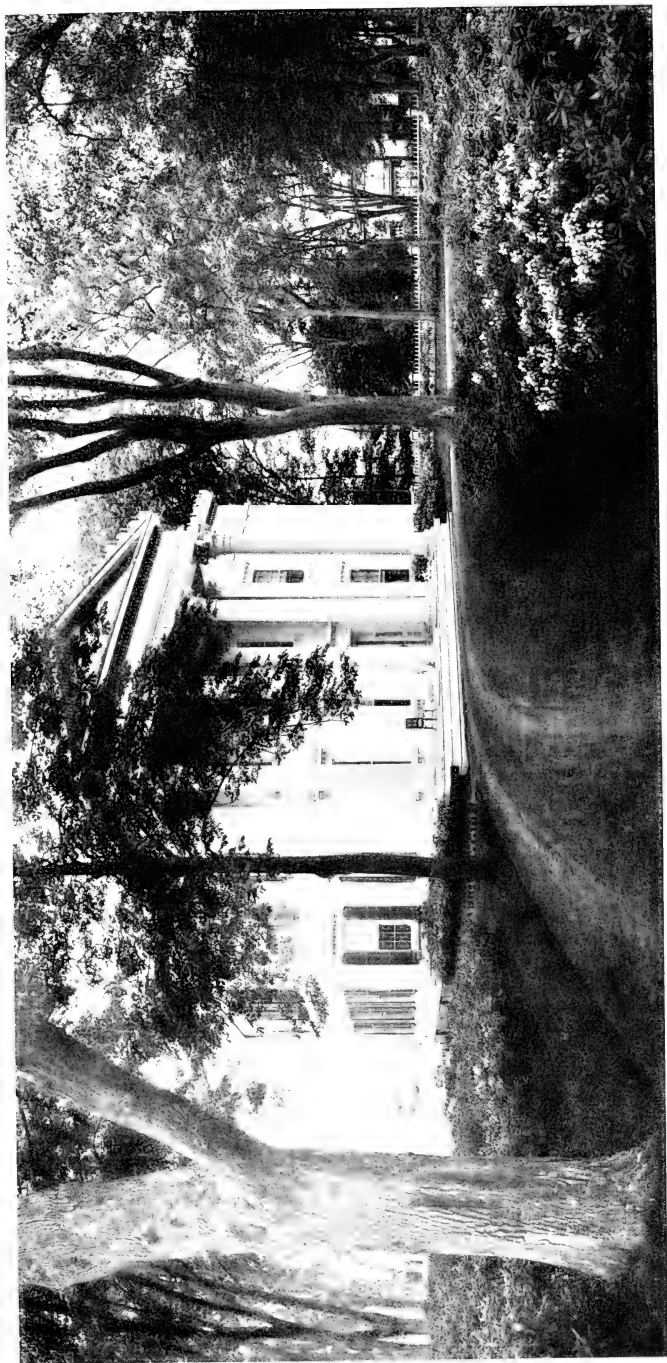
A fence made of round, white pickets, quaint and in keeping with the buildings, enclosed about three acres of ground. The lawn in front of the house was dignified by the presence of three or four great arching elms, with trunks three feet in diameter and about sixty feet high. Along the side of the house was a border of box and a little terrace across reaching a lower level. Old-fashioned flowers peeped up in corners and nooks. The entire grounds had a distinctly old-time air.

It was not easy to suggest a landscape treat-

ment of this place because anything of the gardenesque, picturesque, or other typical landscape method would certainly mar its spirit. It was felt necessary to sacrifice nearly all ambitious attempts of this kind. Straight walks bordering the house and extending back to the stable and vegetable garden were made; not because they were, in the ordinary sense, beautiful, but because they were fitting.

The grounds in front of the house were developed in conventional landscape style by means of a curving road coming in at one gate and passing the house-front to the other gate, following more or less the arc of a circle. The same landscape treatment for the front was completed by arranging, in irregular beds along the borders of the fence and curving in and out, great masses of hybrid rhododendrons of the richest and most hardy kinds—crimson, purple, pink, and white. The plants on the remainder of the place consisted almost entirely of roses and old-fashioned flowers like larkspur; while shrubs and trees completed what was not accomplished by the rhododendrons, various kinds of dogwoods, snowballs, bush honeysuckles, and some silver maples and ash trees. The old-fashioned flowers were planted on the borders along the edges of the paths.

The principal landscape effect of this place, after all, is the lawn. Here it was possible to secure a long sweep of turf extending from the front to the rear of the grounds with bordering plantations on each side. It should be said that



MRS. RUSSELL SAGE'S HOME AT SAG HARBOR, LONG ISLAND

this scheme of treatment has been amplified from time to time by extending it over such additional ground to the west as has been bought by Mrs. Sage to enlarge the surroundings of the house.

The construction of this place was somewhat difficult. The soil was poor and sandy. The dry climate made it peculiarly difficult to grow grass or trees and shrubs. In order to overcome the difficulties presented in the character of the soil, quantities of clay loam were brought from several miles away. It is a scarce article in that region. This material was spread over the ground to the depth of six inches and on its surface was spread and well incorporated three inches of thoroughly decomposed humus, without which the clay loam would not have been a perfect soil. The shaping and grading of the lawn with this soil were very carefully done. Wherever the planting was located, there elevated areas a few inches above the general level were made. The remaining surface of the lawn was kept on easy-flowing lines, just varying enough from the original to give it a certain touch of elegance and artistic effect.

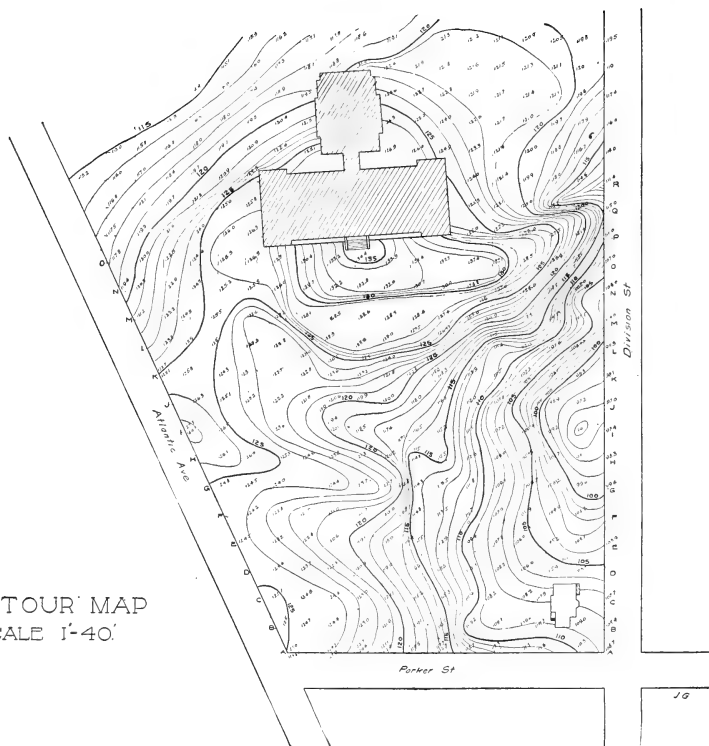
The border of the drive and the edges of the shrub and flower beds were carefully sodded with strips about one foot wide. The roadbed itself was made of an asphaltic earth which had been found elastic and enduring, agreeable to the tread, and not open to the objections of ordinary asphalt. The character of the rhododendron plantations was made irregular in appearance,

up and down just as Nature under favorable conditions would do it, but with just a touch of art. These beds, moreover, consist of masses of single kinds of rhododendrons, a large group of red here, a mass of purple there, the whites carefully kept where they would blend well from purple into red. Some beds, again, were laid out all of one kind, Altogether there may be fifteen or twenty varieties. It should be said that the climatic conditions at Sag Harbor are favorable to rhododendrons. Some of these groups surround the elms, and the eye is led in and out among them in a way that tends to magnify the area of the grounds. The large size of the house made it necessary to give the grounds as extended an effect as possible.

The lawns were sown with Kentucky bluegrass and have now developed into fine turf without further fertilization than the harrowing into the sandy soil of a liberal quantity of thoroughly decayed humus.

In a corner of the place in the rear, to one side, and shut off by the lattice work of a clothes-drying ground, is a vegetable garden containing asparagus and strawberry beds, raspberries, blackberries, and the usual vegetables for the daily use of the house. Across the extreme rear of the place is a road arranged for service purposes in connection with the garden, outbuildings, and kitchen.

CONTOUR MAP
SCALE 1"=40'



ORIGINAL CONTOURS OF PIERSON HIGH SCHOOL GROUNDS

XVII

PIERSON HIGH SCHOOL

THE situation of this school is on a high knoll with hummocky rolling land all around. Coarse, gravelly sand constitutes the soil of the entire property, sterile in the extreme. The location of the building evidently had to be on the apex or highest point of this territory; but the space was so narrow that the entire crown of the hill was cut down two to three feet in order to give a sufficient space in front of the structure to allow a vehicle to turn conveniently and give the building a sense of fitness to its surroundings.

The grading of the rest of the place was complicated and difficult. Irregularities had to be removed and hollows filled up to secure long sweeping lines and graceful contours. Wherever the planting-spaces came, slightly raised contours were made to give prominence to the effect of the trees and shrubs set there: larkspurs, hollyhocks, irises, bleeding heart, and the like. At least twelve thousand cubic feet of soil were moved from one place to another before this work was completed. This scheme was carried out from calculations in accordance with sections made from a contour map with elevations of one foot shown at the intersections of squares of fifty feet.

The enclosure of this territory was accomplished by a wire fence made of netting and iron posts anchored in the ground.

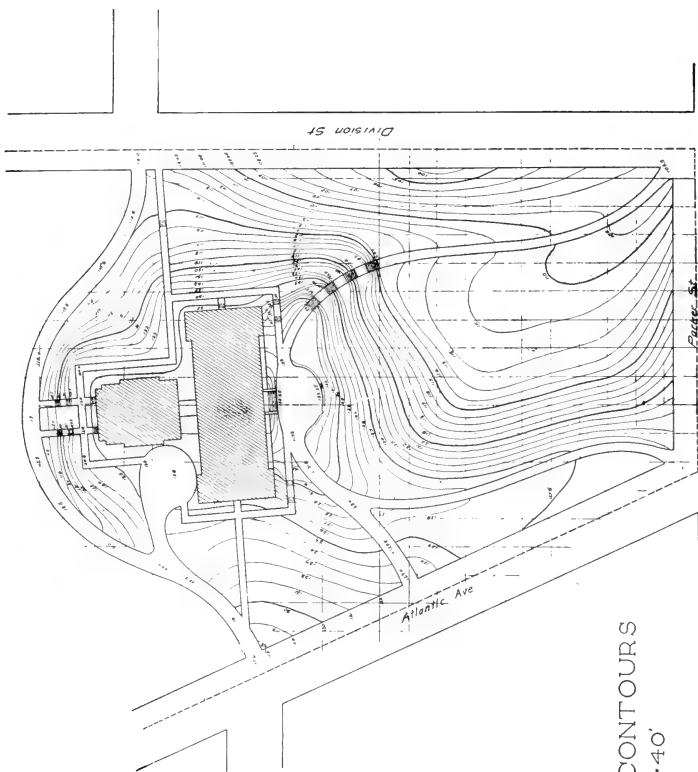
A short drive with an open plaza in front of the main door of the school-building was laid out, and two winding walks lead from the two corners of the property adjacent to the most important road bounding it.

The scheme of the planting was suitable to that of most small places, an irregular border of trees and shrubs around the outskirts with the entrance and corners emphasized with larger groups of trees and shrubs.

The theory of the treatment of the grove of oaks, in the rear, was to keep it open and encourage grass. Appropriately placed are seats, swings, and other devices for outdoor amusements.

Owing to the somewhat bleak and dreary character of the scenery and the fact that the climate of Sag Harbor is softened by the misty sea air and favorable to the growth of evergreens, a considerable plantation of Douglas firs and white pines was used around both foot entrances in order to give the place a cozy and comfortable appearance in winter. These are among the best evergreens for such a climate and soil.

On both sides of the walks, about forty or fifty feet apart, and along the borders of the property as far back as the school-house, were planted Norway maples which do well in comparatively poor soil, attain considerable size, and retain their health and beauty for many years. On each



PROPOSED CONTOURS
SCALE: 1"=40'

side of some steps, constructed on one of the paths to overcome a steep grade, are planted several Norway maples and between them a large mass of the beautiful Regel's privet which keeps picturesque and comparatively dwarf for many years. On the other side of the building, at the junction of the path and the drive, a considerable group of native hawthorn is placed, and at the entrance of the drive are grouped large masses of snowballs, known as the highbush cranberry, and Regel's privet. In front of the building no trees are planted, so that an open vista may be left directly across the longest way to the main street.

Throughout the entire borders among the Norway maples are planted hydrangeas, bush honeysuckles, forsythias, Japanese raspberries, snowballs, *Spiræa opulifolia* or ninebark, and other shrubs. These kinds are selected for their various bloom throughout the season and their vigorous nature adaptable to all kinds of soil. All newly planted trees were carefully staked to prevent blowing over.

The wire fence surrounding the place was planted with Japanese honeysuckles which in a year or two will make a complete hedge effect of almost evergreen foliage.

In reference to walks and concrete steps which in this instance were used to overcome an especially difficult grade, it should be mentioned that where, as in this case, the arrangement is feasible, steps should be clustered together with frequent land-

ings and always at the steepest part of the territory traversed. The risers of the steps should never be more than six inches high, and even an inch less is better. The tread should be eleven or twelve inches. A low curb on the side will protect the bordering bank from injury by those afoot. The banks on each side should be heaped up and on them trees and shrubs so planted as to keep the steps out of view.

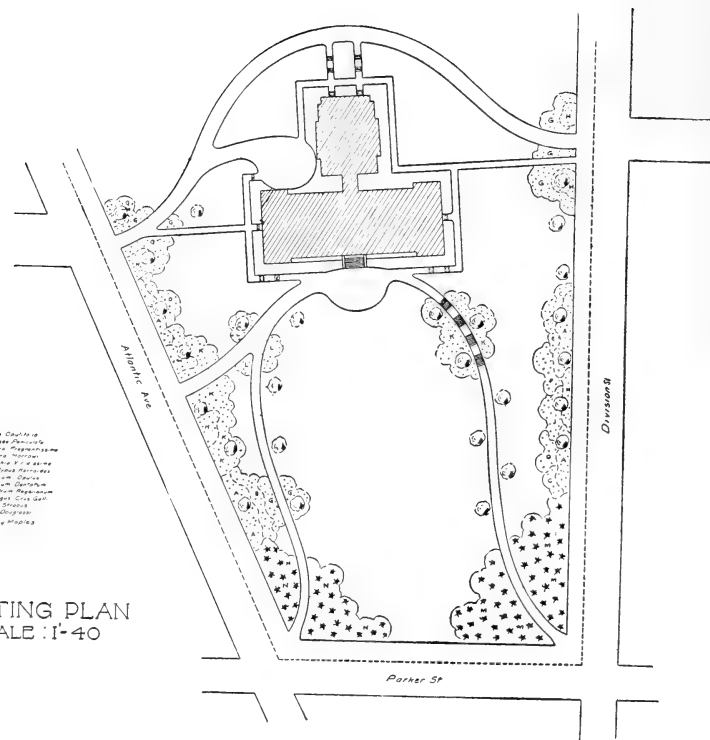
No rock-work was used in connection with the steps of these school-grounds as the country there is sandy and free from anything suggesting the use of rocks.

The improvement and preparation of the poor gravelly soil for the purpose of making the lawn were brought about by carting clay loam from a place three miles distant and spreading it about six inches thick and then mixing with it two inches of well-decomposed humus to supply the necessary organic matter.

The borders of the walks had to be made with strips of sod, but the main lawn was sown with Kentucky blue-grass as a base, mixed with Rhode Island bent, creeping bent, and redtop. This seed was raked in thoroughly and then rolled with a heavy iron hand-roller without further treatment except to supply moisture from hydrants which were set every two hundred feet throughout the grounds. These hydrants were rendered necessary because of the sandy soil and infrequent rain which characterize the climate of Sag Harbor. Were it not for the humid air from the near-by

- A - *Spirea Douglasii*
- B - *Hydrangea paniculata*
- C - *Lonicera fragrantissima*
- D - *Lonicera Morrow*
- E - *Philadelphus viridiflorus*
- F - *Philadelphus horizontalis*
- G - *Hamamelis virginica*
- H - *Hamamelis virginica*
- I - *Hamamelis virginica*
- J - *Hamamelis virginica*
- K - *Hamamelis virginica*
- L - *Hamamelis virginica*
- M - *Hamamelis virginica*
- N - *Hamamelis virginica*
- O - *Hamamelis virginica*

PLANTING PLAN SCALE 1"=40'



PLANTING-PLAN OF PIERSON HIGH SCHOOL GROUNDS

PIERSON HIGH SCHOOL

ocean, growth would be almost impossible. Finally the bare appearance of the school-building was relieved by covering a considerable portion of the walls with Japanese ivy.

The walks and roads were covered with the same kind of asphaltic earth as that used at Mrs. Sage's Sag Harbor home and for the same reason. This High School was built and the grounds laid out by Mrs. Sage as a donation to her native place.

XVIII

AN ISLAND HOME

IN the midst of Long Island Sound, a mile or more from the Connecticut shore, stands a sandy boulder-strewn island and a house or two of no particular consequence not far away. A light-house for years has stood on one point. Otherwise the island has been little developed, having principally been the abode of a wide-spread growth of ailanthus, the suckers of which have overrun almost everything. No one apparently knows whence the ailanthus came, but it has taken full possession with the exception of a few isolated outlying patches of bayberry bushes and wild vines.

The last owner conceived the idea of making himself a home on this barren island with its pure air and tide-swept shores. Sailing and boating he could easily command, and the house, barns, garden, lawns, and boat landings he proposed to create in a somewhat leisurely way that would fit it gradually to his needs and secure for him the greatest enjoyment of the natural beauties of the place.

The house designed for him is simple and fitted to the spot. It is of no special type of architecture unless it be that of a Norman farm

house. It is long and rambling and affords every comfort and even luxury. The dining-room and associated apartments stand a hundred feet away from the main house, connected by a vine-clad pergola and a garden. At the other end of the group of buildings has been erected a boat landing and all along the front is constructed a great sea wall, at some points twenty feet high, forming a series of platforms on the highest of which stands the main house.

This sea wall makes one of the most notable features of the place, with its massive pile of big boulders, some of which are many tons in weight. The base of the sea wall is much wider than the top, thus giving a sense of solidity. The topmost edge, where cut coping would be generally placed, is finished with water-worn boulders of smaller size and comparatively even surfaces, giving only a slightly waving line. On the inside of this first parapet wall is carried a hidden path about two feet below the top of the wall and bounded on the other side by the wall supporting the upper terrace on which the house stands.

Pockets of earth are contrived along the edge of this path on both sides where vines can be planted, particularly Virginia creeper, actinidia, and the hybrid wichuriana roses. The object of these climbers, especially on the outer wall, is to modify its bleak aspect by occasional masses of clinging foliage. The front of this sea wall is usually wind and wave swept. An attempt has been made still further to modify the bleak-

ness of the bare wall and boulder-strewn shores by planting bullrushes, the tall salt marsh-grass with its brown plumes, and the native grass of the island.

One peculiarity of the sea wall is that it presents the appearance of having been built without cement, consequently it contains many nooks and corners which, by the use of a few scraps of stone here and there, can be made to hold a considerable quantity of earth. These interstices have been filled with a strong clay mold brought from the mainland, the native soil being too light and sandy to hold plants in these spaces.

Some of the nooks are occupied by dwarf plants like andromedas, and certain evergreen azaleas and rhododendrons are planted at the base of the wall, where also are the vines. In the holes above are planted saxifrages, sedums, prickly pears, and other small rock plants that grow with little moisture or depth of soil. In other places, especially in the cracks of the pavement of the terraces, wild tuft grasses are set out in spots here and there. All this is done to give the effect that nature had retained or at least regained some foothold on these bare rocks. With the same view of suggesting that nature had undertaken to regain possession were planted many red cedars and Douglas spruces from five to ten feet in height, on the land side of the group of buildings to the north and east. Between these cedars and the group of buildings masses

AN ISLAND HOME

of deciduous trees and shrubs shut in and protected the house from northerly storms.

The island itself in other parts was given over to open lawns, groves of evergreen and deciduous trees, and occasional masses of wild bayberry-bush effects. The ailanthus was almost entirely rooted out except an occasional isolated specimen, which was retained on account of its essential beauty, for there is no more desirable tree than the ailanthus if it were not for its suckering propensities and disagreeable odor.

The general appearance of the island was not seriously modified by all this work; just enough home-like effect of lawns and trees was introduced to suggest the idea of human habitation.

The vegetable garden was shut in on at least three sides by farm buildings and high rough banks constructed of roots and turf accumulated in removing the ailanthus and cultivating the soil. Over these rough ramparts were planted wild vines of all sorts; Virginia creepers, grapes, honeysuckles, and bittersweet. Within this inclosure were set the vegetable garden and poultry yard. By this means the general effect of the place was kept comparatively natural and wild.

The only essentially artificial feature of this island treatment lay in the house garden, and this was entirely screened on all sides by vine-clad pergola, house, dining-room, and shrubbery, deciduous tree and red cedar plantation.

Three designs were made for the treatment of this one-hundred-feet four-square garden.

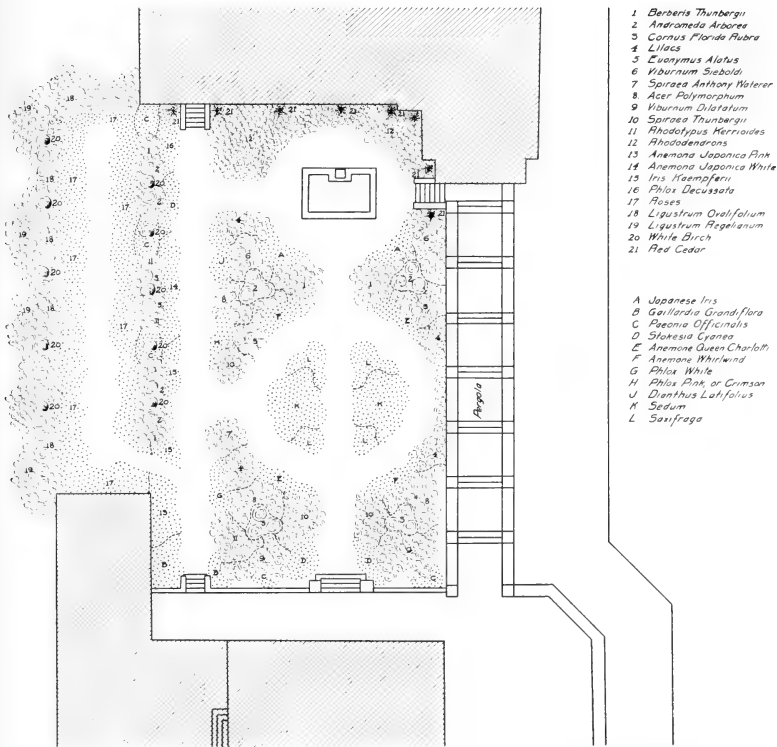
The first result to be sought for this house garden was to inclose it with deciduous shrubs and vines on all sides. To the north a solid row of California privet, *Ligustrum ovalifolium*, was set three feet apart in the row. This privet is liable to become somewhat stiff in form on account of the pruning necessary to fit it for a hedge. For the same reason it is apt to become bare at the bottom. In order to overcome this tendency and vary and solidify the effect, the Regel's privet, *Ligustrum regelianum*, was used along the base of the hedge. This, with the trees and the shrubs on the farther side, afforded very necessary shelter to the rose garden adjoining. Next to this rose garden was arranged a border of deciduous shrubs with herbaceous plants on each side and then the general grouping of the garden across to the pergola. At the extreme eastern end of the garden is a small water-lily pool and against the dining-room building are masses of rhododendrons with red cedars among them. The general effect of the place is an irregularly bordered series of three paths of grass, running at right angles to the house and forming long vistas.

For the treatment of the garden itself, which is one hundred feet four-square, these alternative designs were made.

The first of these schemes contemplates an effect of evergreens in the main garden throughout the year. This presupposes the presence of climbers, roses, and deciduous shrubs in other parts of the garden. The evergreens used are

PLANTING PLAN FOR GARDEN BELONGING TO ALFRED MESTRE ESQ.

SCALE:



- 1 *Berberis Thunbergii*
- 2 *Andromeda Arborea*
- 3 *Cornus Florida Rubra*
- 4 *Lilacs*
- 5 *Euonymus Alatus*
- 6 *Viburnum Sieboldi*
- 7 *Spiraea Anthony Waterer*
- 8 *Acer Polymorphum*
- 9 *Viburnum Dilatatum*
- 10 *Spiraea Thunbergii*
- 11 *Rhodotypos Herrioides*
- 12 *Rhododendrons*
- 13 *Anemona Japonica Pink*
- 14 *Anemona Japonica White*
- 15 *Iris Paempferii*
- 16 *Philas Decussata*
- 17 *Roses*
- 18 *Ligustrum Ovalifolium*
- 19 *Ligustrum Regelianum*
- 20 *White Birch*
- 21 *Red Cedar*

- A *Japanese Iris*
- B *Gaillardia Grandiflora*
- C *Paeonia Officinalis*
- D *Stokesia Cyanea*
- E *Anemone Queen Charlotte*
- F *Anemone Whirlwind*
- G *Philas White*
- H *Philas Pink, or Crimson*
- J *Dianthus Latifolius*
- K *Sedum*
- L *Saxifraga*

Samuel Parsons & Co
Landscape Architects
31 James Street New York

PLAN OF A SMALL GARDEN ON SHEFFIELD ISLAND, CONNECTICUT

different varieties of Japanese retinospora, juniper, yew, both Japanese and American, and the curious umbrella pine of Japan closely allied to the yews. By the employment of about a dozen varieties of these evergreens a wide variation of color effect is produced, ranging from the deepest green through the shades of gold, purple, and blue. In all cases the most dwarf plants are kept in the central beds, with the sizes increasing in undulating contours, with high points carefully developed in each group, a system without formality. These beds spread like a Persian carpet over a broad stretch of the center of the garden. Many low dwarf evergreens are kept along the borders of the grassy walks, thus varying somewhat their line and color. In order to keep these evergreens in perfection and in proper relation to one another for a considerable length of time, it would be necessary to pinch them or use the knife just before the young growth comes to ripeness in order to induce compactness.

The beauty of such a garden as this for both winter and summer would be unrivaled if it were not for the danger of winter killing some of the evergreens. Moreover, there would be a little monotony in the purely evergreen effect, brilliant as it is during certain parts of the season. Also fewer herbaceous plants could be used in this than in the other scheme of treatment.

The second design, which was the one eventually chosen by the owners of the island and carried out in detail, contemplates the use of de-

LANDSCAPE GARDENING STUDIES

ciduous plants united with a large quantity of herbaceous ones. The dominant effect of this scheme is June and autumn color, especially that of autumn. It comprises Thunberg's barberry, *Andromeda arborea*, white-flowering dogwood (*Cornios florida*), *Euonymus alatus*, Japanese maple, Thunberg's spirea, all splendidly colored in autumn. There are lilacs here and other spireas and snowballs and the Japanese raspberry (*Rhodotypus kerrioides*). With these are mixed in great quantities herbaceous plants like Japanese iris, pinks, phlox, and anemone for autumn effect. In the center are two groups of beautiful varieties of sedum and saxifrage, spreading out like mats of coral brought up from the bottom of the sea.

This whole arrangement is unrivaled in beauty in June and possibly in autumn, although that might afford a reasonable subject for discussion; yet, though there are splendid effects among the different colored evergreens, there is nothing more refined and delicate than this beautiful autumn deciduous foliage of tree and shrub.

The third and last scheme for this garden, though like the first not acted upon, may prove suggestive for projects of a similar character. It is essentially a bedding arrangement. It involves the growing of tender plants, annual or biennial, in greenhouses or cold frames, such as *Coleus*, geraniums, *alternantheras*, cannas, castor-oil beans, *acalyphas*, and *achyranthas*. More than this, it involves planting the color designs of the bed-

ding with tulips in the autumn for the following spring effect. This spring effect can also be accomplished with pansies and daisies, the latter of which is perhaps the more lasting. The plan calls for its most splendid and most dwarf effect in the middle of the garden, where two beds are made of two varieties of the brilliant red achyranthas. The other beds are arranged as elsewhere with varying contours with castor-oil plants and cannas and red salvias at the highest points. Many of the borders are planted with the low grass-like growth of the brilliant red and yellow alternantheras and at other places taller plants, such as geraniums and centaurias, push out to the very edge.

These bedding-plants, properly treated, can present their full effect by the first of July if planted about the middle of May. But they are fine from the moment they are set out and they increase in splendor and glow of color until just before a heavy frost strikes them in October, when they seem to surpass themselves in richness of tone. In suggesting a plan involving this showy kind of gardening it was considered that the results would fully justify the expense and trouble, because there was a greenhouse on the place which in any case had to be heated and here the gardener could readily produce the bedding-plants required.

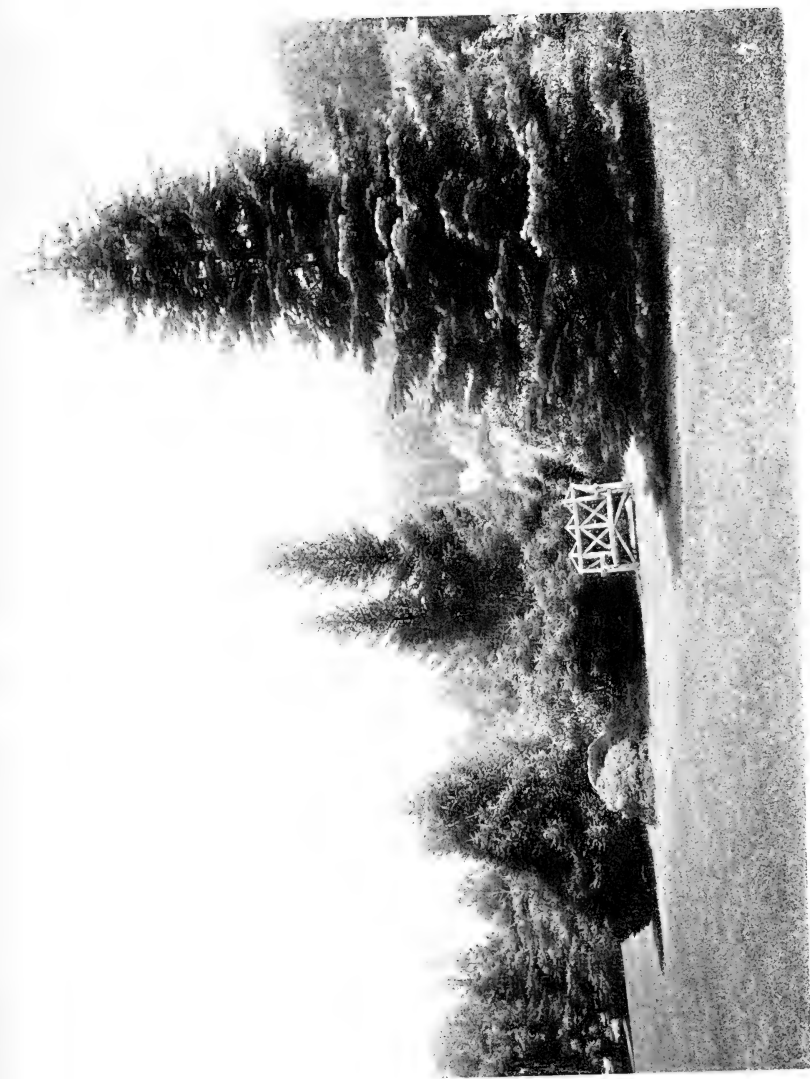
XIX

EVERGREENS

EVERGREENS have their place in landscape gardening and should be employed wherever they look well and do well. The difficulty is that they are a little sluggish in their habits, owing to the fact that they retain their foliage for so long a period. Some of them are hard to transplant, others are peculiarly sensitive to cold in early spring when warm days and hot winds succeeded by cold blasts will chill the sap and brown the evergreen foliage in an hour. In other words, they are handicapped by their leaves.

The function of evergreens in the landscape is to give a warm and agreeable appearance of foliage in winter and to diversify and strengthen the character of the landscape in summer.

To accomplish this it is especially necessary to mass evergreens together; to isolate them from deciduous trees; to concentrate and cumulate their effect. The tones of their color should be studied and blended in groups. The different shades of green should be brought together and the bright yellows and shining blues used sparingly, if at all. Decorative effect in borders, window boxes, etc., admit of other and more artificial effects.



A STUDY IN GROUPING EVERGREENS AT HOUGHTON FARM, ORANGE COUNTY, NEW YORK

EVERGREENS

Evergreens may be divided into two distinct classes of form, namely *erect* and *spreading*, and much good taste may be displayed in devising agreeable relations between these types. There are spots doubtless where evergreens of the erect form have their place standing alone in isolated beauty, but this erect form should be kept perfectly natural. The knife and pruning-shears should never be allowed to mutilate them in order to produce fancied symmetry which really destroys their natural form.

Certain freakish growth of branch or twig may require removal on rare occasions, and a great deal can be done by pinching and starting the tree in the right way by stakes when small. But when the tree assumes its specific form it should be nourished and cultivated but otherwise let alone.

The list submitted below includes only evergreens that can be safely depended upon in the climate of our Middle and Eastern States. If they are likely to be exposed to specially cold winds or other like vicissitudes of winter and spring, it is well to protect them during their earlier years with some loose covering like cornstalks, sheaves of straw, or boards. Coverings of any kind which exclude the air are injurious. Needless to say, evergreens above all plants should have fibrous roots produced by frequent transplanting, should be planted in mellow, well-drained soil and above all not too deeply. The soil should not be too rich and stimulating, as evergreens are apt in that

LANDSCAPE GARDENING STUDIES

case to produce immature growth late in the season and winter ill.

LIST OF EVERGREENS FOR MIDDLE AND EASTERN STATES.

Abies homolepis (P. *brachyphylla*).

Cilicica, Cilician fir.

concolor.

Douglasii, Douglas fir.

Mariesii.

Sachalinensis.

Veitchii.

Biota Orientalis elegantissima.

Cryptomeria Japonica lobbi compacta.

Juniperus Canadensis Canadian juniper.

Chinensis procumbens }
Chinensis } Chinese juniper.

communis Suecica Swedish juniper.

communis Cracovica.

Japonica Japanese juniper.

Japonica Pfitzeriana.

Virginiana.

Virginiana glauca.

Virginiana Schottii.

Picea alba White spruce.

Alcockiana Alcock's spruce.

Engelmanni Engelman's spruce.

excelsa Norway spruce.

Omorica.

Orientalis Oriental spruce.

polita Tiger-tail spruce.

pungens Blue spruce.

Pinus Austriaca Austrian pine.

Cembra Swiss stone pine.

densiflora.

excelsa Bhotan pine.

EVERGREENS

Pinus flexilis.

Koraiensis.

Massoniana.

Mughus.

parviflora.

Strobus. White pine.

Retinospora obtusa gracilis

obtusa filicoides

obtusa pygmea (nana)

plumosa

pisifera

pisifera filifera

pisifera filifera aurea

pisifera squarrosa

..... Japanese cypress.

Sciadopitys verticillata. Japanese umbrella pine.

Taxus cuspidata brevifolia

cuspidata capitata

..... Japanese yew.

Canadensis. Canadian yew.

Canadensis repandens. Spreading yew.

Canadensis Washingtonii.

Tsuga Canadensis. American hemlock.

diversifolia.

Sieboldii. Japanese hemlock.

XX

RHODODENDRONS

It has been often said that England and Holland have the advantage over America in growing rhododendrons, while America triumphs in her deciduous trees and shrubs of which she has so great a variety. When it comes to evergreens, including both conifer and broad-leaved types, such as rhododendrons, the difference is less marked when one understands the subject. In America a large portion of the culture of rhododendrons has been carried on by gardeners who have gained their experience chiefly in England or on the Continent. In this country, with a peculiar and perhaps natural prejudice, these gardeners have often adhered blindly to the kinds they were accustomed to use in England and simply blamed our beastly climate for their repeated failures.

During the last ten or fifteen years, however, increasing wealth and a love for horticulture have greatly advanced the growing of rhododendrons in this country. This has led to a more intelligent study of the shrub in its new environment. As an actual fact, however, America is the home of several of the best species.

In North Carolina the exhibition of maximum and catawbiense rhododendrons excites the won-

RHODODENDRONS

der of all travelers; and it has come to pass that larger and larger plantations of the native kinds are being used in parks and country-places. The foliage of both those varieties is entirely satisfactory and if it were not that the flowers are somewhat insignificant and wanting in richness of color there would be no necessity for going to England for rhododendrons.

In the process of improving the various kinds in both England and on the Continent, hybridizing and selection of seedlings have been used with most remarkable results. *Ponticum* from Asia Minor; *arboreum* from the Himalayas, and still other kinds have been used to enrich and vary the color of the petal and increase the size of the truss of flowers. Many of these kinds have failed to be hardy in England, others do well there and yet do not thrive in America.

The skill of the growers is great, but they can not make the kinds that are imbued with the southern blood always stand the rigors of the north even in England. Moreover, many more plants die there than is ordinarily supposed. On the other hand, there are nooks and corners all over England and Scotland, particularly in the South, where the tenderest rhododendrons thrive in an astonishing manner; but this affords no criterion for selecting kinds suitable to America. The more tender varieties are likely to have a strain of the *arboreum* blood in the *catawbiense* type, although the breeding of plants is apt to reveal strange freaks of inheritance.

LANDSCAPE GARDENING STUDIES

The only safe test for the hardiness of a plant is its behavior in any locality for a long period of years. Even then one will be surprised to see a kind, always deemed hardy, fail in an apparently well-protected place, while in another specially bleak spot a comparatively tender variety will astonish us by thriving. What is the deduction from this somewhat baffling experience? Simply that the behavior of the different kinds should be studied throughout ten, fifteen, or twenty years in several adjacent localities with different exposures.

From the notes obtained in this way a general average of excellence is established. This kind of scientific observation has been going on for at least twenty years in at least one or two places in America, with the result that the whole body of rhododendron-growers has been thereby greatly enlightened.

Some of the hardiest and best kinds have been produced in America from the selection of good seedlings.

The so-called process of hybridizing as applied to rhododendrons in most cases is really not hybridizing at all, but a development from repeated selection from a multitude of seedlings of individual plants showing excellent qualities or marked characteristics and repeating the process for several generations.

A list of hardy rhododendrons suited to the climate of New York, Boston, and Philadelphia will be found in this chapter. The list may seem

RHODODENDRONS

a short one, but it is conservative and based on the experience of nearly two generations in America.

There are several other species of rhododendrons which are dwarf and very hardy, *Rhododendron punctatum* from the mountain slopes of North Carolina, *Rhododendron ferrugineum*, and *R. hirsutum* from the European Alps. From the Caucasus come at least two hardy species, *Smirnoi* and *Ungerni*, with foliage like the Edelweiss or Alpen snowflower. *Rhododendron Wilsonii* is an attractive species. All of these are extremely hardy. From China come several hardy species, notably *Rhododendron Kaempferii*, which has been tested for a number of years in the Arnold arboretum. Still others may be expected from the same source.

The character of soil has much to do with the success of rhododendrons. In the woods a sandy soil covered with plenty of leaves seems to favor them, doubtless because it enables the wood to ripen properly. In cultivated grounds where humus is usually deficient the addition of a strong soil containing plenty of clay and a good modicum of organic matter is best suited to their development. On the other hand, it should not have too much stimulating manure where the easily liberated ammonia tends to produce a succulent growth in the latter part of the summer and even in autumn, which exposes it to injury during the following winter and spring. This stimulation also leads to an overgrowth of leaf buds instead of flower buds.

The surest way to obtain a healthy, vigorous,

LANDSCAPE GARDENING STUDIES

normal growth is to mulch heavily with leaves or other rotting organic matter soon after planting. The value of the mulching effect is well understood.

Care of rhododendrons consists chiefly in removing the excess of flower buds, taking away the fading flowers as soon as they show signs of decay, and watering during dry periods even as late as November if the drought has been considerable. The weakening effect of autumn drought has caused more rhododendrons to die in the following March than the extreme cold of the winter. A good way to break the severity of the winds throughout the winter and the spring is to place evergreen boughs thrust in the ground throughout the rhododendron groups, thus sheltering them.

The maintenance of a large group of rhododendrons calls for almost daily attention throughout summer and autumn. Not only are the foregoing precautions necessary, but protection must be provided against the insects which will come as they come to all plants. Fungous growths may appear. Mice may invade the mulch in winter, all of which must be guarded against. After planting rhododendrons and mulching them, there is no need of cultivation with fork or spade. Indeed, it may prove positively injurious.

LIST OF HARDY RHODODENDRONS

Abraham Lincoln, rosy crimson

Album elegans, light blush, marked with straw-color, fading white

Album grandiflorum, light blush, fading white

RHODODENDRONS

Alexander Dancer, bright rose, with lighter center
Amarantinora, large light rose
Atrosanguineum, blood-red
Boule de Neige, blush white
Candidissimum, blush white, fading pure white
Catawbiense bicolor, rose, white center
Charles Bagley, cherry-red
Charles Dickens, dark scarlet
Charles S. Sargent, rich crimson
Charles Thorold, purple, with beautiful bronze blotch
Daisy Rand, deep crimson, beautifully spotted
Delicatissimum, white blush, edged pink
Dr. Torrey, rose
Edward S. Rand, rich scarlet
Everestianum, rosy lilac, spotted yellow
Flushing, rosy scarlet, beautifully spotted
F. D. Godman, crimson, with a beautiful dark blotch
F. L. Ames, pale rose
General Grant, rosy scarlet
Glennyanum, blush white
Hannibal, rose
H. H. Hunnewell, rich dark crimson
H. W. Sargent, crimson, enormous trusses
Henrietta Sargent, pink, with yellow blotch
Henry Probasco, deep carmine, fringed
Ignatius Sargent, rosy scarlet, enormous trusses
James Bateman, clear rosy scarlet
James Macintosh, rosy scarlet, spotted
J. R. Trumpy, rosy crimson
Kettledrum, rich purplish crimson
Kissena, lavender, beautifully crimped
King of the Purples, beautiful purple
Lady Armstrong, pale rose, beautifully spotted
Lady Grey Egerton, light mauve or silvery blush
Lee's dark purple
Mabel Parsons, rose blush
Macranthum, large bright rose

LANDSCAPE GARDENING STUDIES

Maximum roseum, pink, with a yellow blotch
Maximum superbum, large rose
Melton, rich purple, with very dark center
Metternichi, common white rhododendron of northern Japan
Mrs. Arthur Hunnewell, pink with primrose center
Mrs. H. S. Hunnewell, white
Mrs. Harry Ingersoll, deep rosy-lilac, greenish-yellow blotch
Mrs. Milner, rich crimson
Mrs. C. S. Sargent, bright pink with yellow blotch
Old Port, rich plum color
President Roosevelt, plum color
Purpureum crispum, clear purple, fringed
Purpureum elegans, fine purple
Purpureum grandiflorum, large purple
Parsons grandiflorum, rosy purple
Rosabel, pale rose
Roseum luteum, pink, with yellow blotch
R. S. Field, scarlet
Scipio, fine rose, deep rose
Sefton, dark maroon
Senator Chas. Sumner, rose and light purple
S. B. Parsons, very dark crimson
Smirnowi, beautiful rose
Speciosum, showy pink

XXI

MRS. RUSSELL SAGE'S MILE OF RHODODENDRONS IN CENTRAL PARK

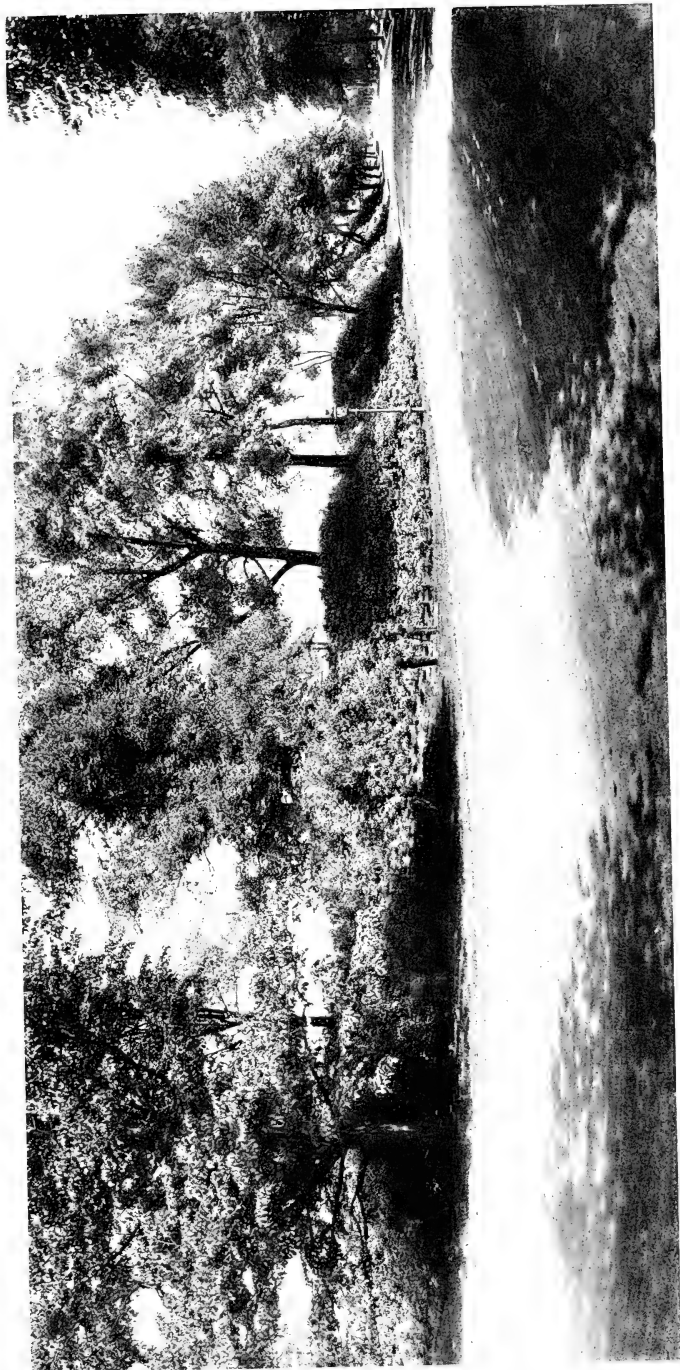
WHEN Mrs. Russell Sage decided to give of her bounty to Central Park, where she and her husband had spent so many happy hours, she was led to select as a suitable place for improvement the barren and somewhat bare bank along the East Drive commencing at 86th Street.

It was suggested to her that the spot lent itself well to rhododendrons. Surrounding conditions resembled favored spots in the native woods where rhododendrons grew. The place was sheltered by a bank fifteen feet high and partially shaded by large maples, elms, beeches, and plane-trees standing at considerable distances apart. The appearance of rhododendrons, both as to foliage and flowers, seemed enhanced by this partial seclusion.

The theory followed in making this plantation of rhododendrons was to mass the taller and hardier ones (the maximums) at the back and high up on the slope, and to keep the smaller ones, fine-flowering hybrids, and *Rhododendron catawbiense*, in the front. The arrangement was continually varied by boldly breaking this rule at certain points. For instance, on a higher point of

land rising up from the general contour of the bank would be carried out almost to its point a mass of the large maximums. Creeping in a great bay or mass of foliage up the bank would go, on the other hand, a lot of smaller hybrids. And so, throughout the entire length of the drive, following the contours of the ground as they waved up and down, would alternate promontories of maximums and deep bays of hybrids.

Under the trees as far as possible were planted maximums of small size, as they endure shade better than any other species of rhododendrons. The hybrids, moreover, require sunlight to develop the beautiful colors of their flowers and were therefore planted in the more open spaces. One readily sees, by considering the accompanying picture, that although a certain system is visible in the disposition of the plants, yet the bays and promontories are very marked and the billowing effect of the planting is clearly indicated. Although the bank does protect the plants to a considerable degree, yet it is bleak and exposed to sweeping blasts of the cold north wind in March and April, just after a premature bit of spring-like weather has opened the pores of the plants and started the sap moving. Because of this it was found necessary to select unusually hardy kinds of hybrid rhododendrons which had been tested in this particular climate and soil for many years, as it is well known that the hardiness of rhododendrons is very unreliable. A hundred miles difference in latitude, or a few hundred



VIEW OF RHODODENDRON PLANTATION GIVEN BY MRS. RUSSELL SAGE TO CENTRAL PARK

feet in altitude, or the proximity of seashore or mountains, would mean the difference between success and failure.

The fertility of the natural soil on the entire area of this tract was leached out by the rains washing down its steep slopes, leaving hardly anything but sand. The rhododendron likes mellow, fertile soil and revels in decayed organic matter. However, an overabundance of nitrogenous food, such as stable manure or certain chemical fertilizers furnish, is liable to produce an excessive growth of wood throughout the season. This invites partial or entire destruction of the plant during the following winter or spring.

The rhododendron does not necessarily prefer heavy clay soil, but often grows well in a sandy one where shade and natural conditions abound. In the exposed and dry conditions of Central Park, however, a heavier soil than the very sandy one found there is required. It was thought that at least twenty-five per cent of clay should be used, whereas in the sandy park soil only five to ten per cent of clay existed. To this was added a modicum of natural decayed organic matter or humus, producing a soil containing about twenty per cent of organic matter as compared to five or six per cent in the natural soil where the plantation was made.

After the Sage rhododendrons were planted somewhat deeply in this soil it was covered with a mulch of four or five inches of leaves because, unlike most other hardwood shrubs, the rhodo-

dendron shows a continual tendency to make roots upward to the very surface and the rotting mulch protects these roots in winter and spring and retains the moisture.

The moisture-retaining power of this made soil, moreover, is greatly increased by the large humus content, as this material will retain several times its own weight in water, while sand will not hold more than one-fourth of its weight.

The care of these rhododendrons in the park is deemed most important, and it has been the practice to use the sprinkling-hose freely in the evening during the growing-season when the sun is setting or in the early morning. This is done only during dry periods, as overwatering is harmful and unduly stimulates the growth. The watering is discontinued in August when the actual growth of the plant is finished and the proper ripening of the wood becomes important. Sometimes, however, an extreme drought in the autumn makes it advisable to water freely every few days, as many rhododendrons die during the following winter and spring from a drought in the fall. In the season of bloom all faded flowers are immediately removed to give the plant full play for leaf development.

It is well worth while to any one visiting Central Park in the latter part of May or early June to see this mile of Mrs. Sage's rhododendrons, purple, crimson, pink, and white masses of solid color hardly equaled in the whole range of floral effect in the temperate zone.



ANOTHER VIEW OF MRS. SAGE'S RHODODENDRON PLANTATION

MRS. SAGE'S MILE OF RHODODENDRONS

LIST OF RHODODENDRONS

Abraham Lincoln	General Grant
Album Elegans	H. H. Hunnewell
Album grandiflorum	H. W. Sargent
Alexander Dancer	Kettledrum
Atrosanguineum	Lady Armstrong
Boule de Neige	Mrs. Milner
Chas. Bagley	Old Port
Chas. Dickens	President Roosevelt
Delicatissimum	Parsons grandiflorum
Edward S. Rand	Purpureum elegans
Everestianum	Purpureum grandiflorum
	R. S. Field

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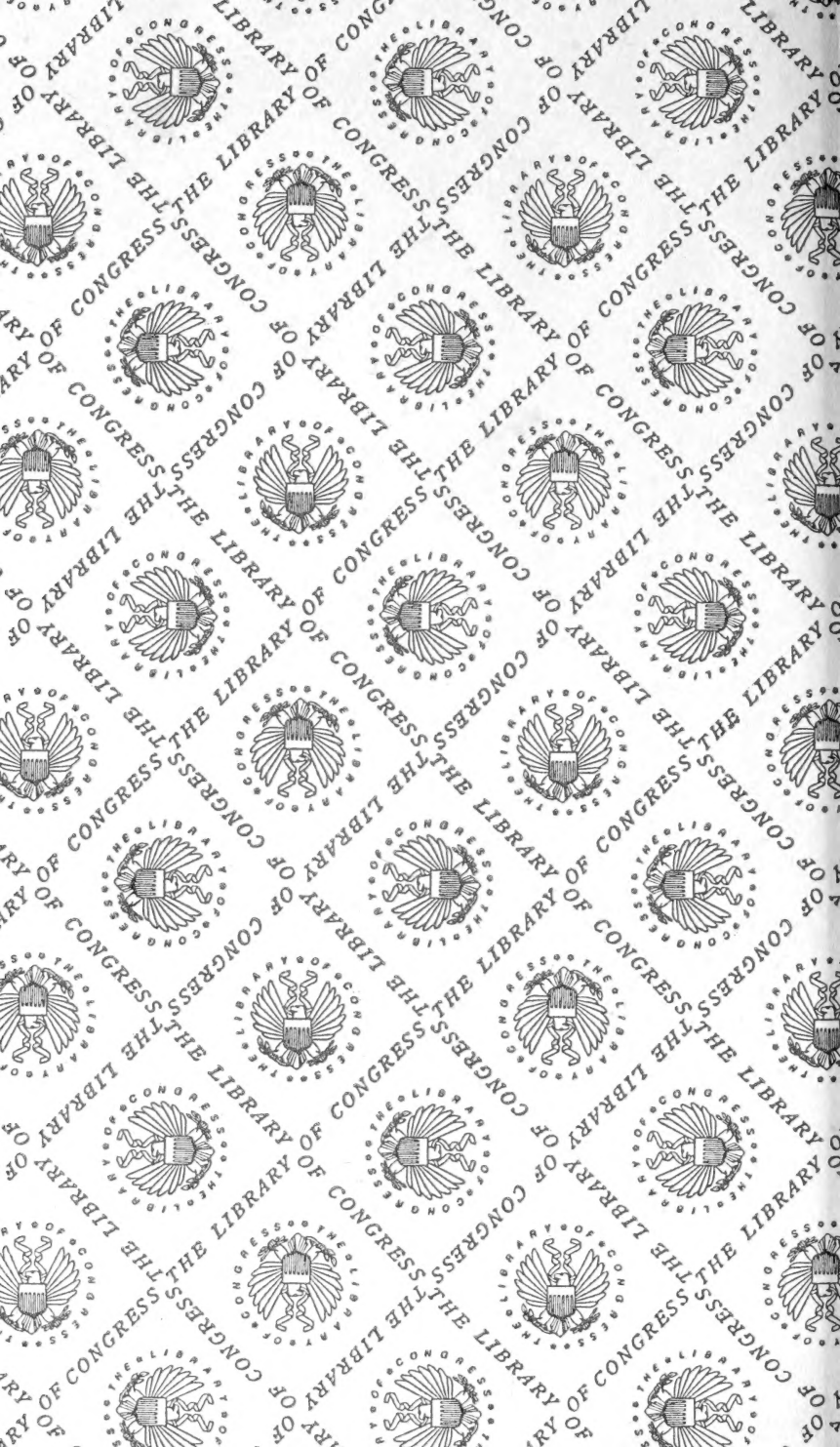
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